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SIR RICHARD LIVINGSTONE ON EDUCATION

BARBARA HUTCHINSON
University of Alberta, Calgary

The purpose of this study is to examine the educational philosophy of Sir Richard Winn Livingstone, a contemporary English educator, and to relate it to current theory and practice. His ideas not only contribute to the history of educational theory generally but also offer us constructive suggestions to make our educational practices more appropriate to the needs of the twentieth century.

Livingstone's Interpretation of Ideological Changes in the Contemporary World

To appreciate the contributions of Sir Richard Livingstone (and hence to appreciate contemporary educational problems), one must examine the milieu in which he lived and worked—"the character of his age, the influences social, intellectual and other which have shaped his outlook and his intellect."[1] He regarded the twentieth century as a period of moral confusion similar to that of fifth-century Athens. Such forces as liberalism, rationalism and science not only have changed the material world and society but also have altered "the very texture of our thought", their impact striking violently on traditional beliefs and throwing them into confusion. Science has brought about the annihilation of space which made a new international outlook necessary. Unfortunately, this broader outlook has not been forthcoming; anachronistic isolationism and provincialism are still prevalent. Science has given us the means to abolish poverty, but we are too uneducated to spend our wealth intelligently. Science has provided us with fine material possessions, but we have not found a substitute for the satisfaction of craftsmanship. Science has provided us with analytical techniques upon which the maintenance and progress of our civilization depend, but we have tended to mistake an analysis of things for a knowledge and appreciation of them. We must not forget the dual nature of our civilization, compounded as it is of the material world and the human being. The great obstacles to individual, national and international progress arise from the latter, from human conduct. It was to the solution of these problems through education that Sir Richard Livingstone addressed himself.

Influences on Livingstone

Three factors had a profound influence upon Livingstone: Hellenism, Christianity and the Danish-People's High School movement.

1. Sir Richard Livingstone. *Education and the Spirit of the Age.* Clarendon Press, Oxford, 1952, p. 80.

In him these influences "formed a blend so perfect that it was difficult for him to realize how others found contradictions in the composing elements."[2] Greek humanism was a subject which he studied intensively in his youth and upon which he lectured and wrote in later life. The people of ancient Greece were confronted by problems similar to those of our own age: intellectual ferment, the collapse of traditional morality, war, skepticism and materialism. In attempting to solve these problems, they created a rational system of morals and religion and a great human ideal. They thus provided us with textbooks of life which we would do well to study.

Greek philosophy, however great, did not satisfy man's spiritual hunger. The great spiritual force of Christianity complemented Hellenism and blended with it to form the basis of our culture. Livingstone was concerned about the warning influence of Christianity, and he attempted to show the need for religion in our education: to give us a proper perspective, an understanding of Western civilization (since for more than a thousand years this creed has ruled the thought and colored the conduct of the West), and a respect for human beings as *human beings,* and to assist us in the essential task of formulating a philosophy of life.

Livingstone saw the Greek and Christian ideal of democracy most nearly approximated in Denmark largely as a result of the Danish People's High School movement. He saw that these Folk High Schools have three secrets of success. First, they are open only to adults who bring to their studies an adult intelligence, a sense of the value of education and practical experience of life which make studies meaningful. Second, they are residential; thus the students become steeped in an atmosphere of education, the teacher becomes more of a personality and influence, and the pleasant buildings, gardens, pictures, music and corporate life mould the character. Third, they are spiritually oriented, "steadily insisting on a spiritual philosophy of life suited to the needs and capacities of the ordinary man."[3] From this movement which created the only educated democracy in the world, Livingstone drew two lessons. One was that national education should be based on adult study. The other was that national education should be made "a spiritual force, awakening and inspiring."[4]

Livingstone's Philosophy

Although Livingstone emphasized the need of each individual to have a philosophy, nowhere in his writings did he make a comprehensive, explicit statement of his own philosophical position. How-

2. *The Times,* "Sir Richard Livingstone: Greek Scholar and Humanist", Dec. 28, 1960.
3. Sir Richard Livingstone. *On Education.* Cambridge University Press, 1960, p. 50.
4. *Ibid.,* p. 534.

ever, it is possible to draw together philosophical ideas from scattered statements throughout his works, as for example:

> We are human beings, with a body, a mind, and also something elusive and indescribable but very real which we call a soul or spirit—three elements which combine in our personality and which interact on each other.[5]

The body is the most certain, tangible thing in man. It is the element in which his passions and appetites reside, irrational but capable of being obedient to reason, and having its activities and virtues which constitute man's moral life.[6] The intellect is "a faculty ministering to a strange need called a sense of truth;"[7] it is the seat of what the Greeks regarded as the highest thing in human nature.

> The soul has two eyes . . . There is the critical, analytical eye which measures and assesses and protects men from illusions and delusions. But there is also the eye which enables them to contemplate, enjoy, and adore.[8]

For the soul is the element of the divine in man. Like his classical hero, Plato, Livingstone believed that the full and harmonious development of these three faculties will result in a happy and virtuous man. Man's fundamental purpose, then, is to make the best of human nature (i.e. to achieve the 'virtue' of man).

On the basis of the foregoing ideas, Livingstone built his system of ethics. A moral system, he believed, must be based on reason and on Nature—on man's "qualities, capacities, and uses."[9] The cardinal features of a great moral system are three. First, it is disinterested, "leading men to desire the good in all its forms, not for results or accidental advantages but for itself." Second, it is progressive, "developing from lower to higher conceptions of good in a vision which is progressively purified and enlarged"[10] as human intellect and experience grow. Third, it is free from narrowness, for the ideal to which it leads is rich and many-sided combining public and private, practical, intellectual and artistic pursuits.

Closely interwoven with Livingstone's ethical theories are his political theories, for civilization rises or falls with the quality of man's interests, tastes, desires, and capacities to which it adapts. Society must therefore collapse unless men have a quantum of moral qualities, and can be improved only by improving men. It is necessary to show them the spiritual ideals without which neither happiness nor success is genuine or permanent, to get them to accept excellence as their master in vocational, intellectual, aesthetic, civic and personal spheres of activity.

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5. Sir Richard Livingstone. *The Rainbow Bridge.* Clarke-Irwin, Toronto, 1959, p. 3.
6. Sir Richard Livingstone. *Education and the Spirit of the Ages,* p. 49.
7. Sir Richard Livingstone. *The Greek Genius and its Meaning to Us.* Oxford University Press, London, 1912, p. 134.
8. Sir Richard Livingstone. *Education and the Spirit of the Age,* p. 102.
9. Sir Richard Livingstone. *Greek Ideals and Modern Life.* Oxford University Press, 1935, p. 140.
10. *Ibid.* p. 74.

As with Plato, so with Livingstone, the key to an improvement in human character and thus in politics and the world, was education. A few of his epistemological tenets deserve consideration. He distinguished between two types of knowledge which one might call knowledge of facts and knowledge with appreciation. There are thus also two ways of acquiring knowledge. One way is logical thinking and analysis. But knowledge depends upon imagination as well as reason; hence this method takes us only part of the way. The second means of arriving at truth is vision or intuition. If an education is to be adequate, it must achieve a balance between the analytic intellect which protects the mind from fantasies and disciplines it, and vision which reveals realities beyond critical analysis.

One of the reasons why much of our education fails is that young people do not want to, and cannot study fruitfully such cultural subjects as history, literature, politics, economics, and ethics because they do not have the necessary knowledge of life derived from experience. The student can acquire from such subjects a background of specific knowledge as well as a number of intellectual skills, but he cannot test, interpret, utilize or really desire them. Therefore adult education is essential.

Implications of Livingstone's Theories for Educational Practice

The tripartite nature of man determines the aims of education. All men need to earn a living; therefore, education must supply them with the techniques on which our civilization is based. All men need to learn to live in a society; therefore, education must give them an understanding of the universe and of men, so that they may be intelligent citizens. And all men have personalities; therefore education should help them to develop fully as human beings so that they may live the good life. Education must do these things for *all* citizens, though the means to accomplish them will vary with different people. The first of these aims is receiving the major emphasis, but it is the latter upon which the improvement of citizens and hence of the world depends.

What curriculum would best achieve these aims? Most of our schools have experienced a crowding of the curriculum as a result of the vast increase in knowledge and try to teach everything with the result that they teach nothing well. A good education must be narrow. It must observe two principles: first, two subjects must be studied thoroughly, so that the pupil will learn what knowledge really is and what its acquisition entails; second, these subjects should give the pupil a vision of greatness. Literature and history, the record of human visions of life and the record of human actions, are best able to accomplish this end. Philosophy and religion, too,

are valuable. Philosophy "clears the mind, it forces people to think, it makes them realize the importance and value of having a fixed principle by which to test and guide and strengthen conduct and it sets them on the road to finding such a principle."[11] But it is religion which moves humanity and satisfies its needs. It is the supreme instrument for that education which provides ideals of conduct. Other subjects that are "charged with values" are art, music, poetry and drama. They are valuable in that they stimulate and develop the powers of imagination, feeling and appreciation and thus counteract the critical and analytical spirit of the age. Even physical education provides opportunities for character training. And Livingstone, like the Greeks whom he so admired, believed that a disciplined body should be the servant of a virtuous mind.

Having used the foregoing subjects to develop man as the best human being possible, one can group around this central core the accessories which he uses to achieve his purposes:

> science, by which he increases his knowledge and control of the universe; politics and economics, by which he creates and regulates the society which will best serve the good life; languages, through which he has access not only to his fellowmen but to the collective wisdom of the world; industry and commerce, regarded not merely as a means of making money, but as Plato conceived them, as mothers and nurses that supply manknd with the necessaries of life. These accessories should be seen and studied with continual regard to the central figure and not, as they too often are, treated as independent forces, each to be elaborated for its own sake without any care for the real subject of the picture.[12]

The teacher's task is given. He must eradicate ignorance, and in its place create reason, right conviction, and wisdom. In order to do this, the teacher must have certain qualities.

(1) He must himself have a sense of values about which he feels intensely, even though he may never mention them, "for a teacher's outlook educates, more than anything he says."[13]

(2) He must know, and be able to make his pupils see, the first-rate.

(3) He should be able to whet the pupils' appetite for knowledge and develop their capacity to learn, rather than load their minds with "undigested lumps of knowledge."

(4) He should have a definite view of his aim and test for its achievement by the clinical study of his students.

(5) He should be a specialist, but not such an expert that, in devoting himself to those aspects of his subject with which the universities concern themselves, he misses the value of his subject in the training of human character.[14]

11. Sir Richard Livingstone. *Education and the Spirit of the Age*, p. 38.
12. Sir Richard Livingstone. *Some Tasks for Education.* Oxford University Press, London, 1946, pp. 19-20.
13. Sir Richard Livingstone. *On Education*, p. 100.
14. Sir Richard Livingstone. *The Rainbow Bridge*, p. 10.

Having obtained a view of what human beings should be, and arrived at conclusions regarding the curriculum that will produce such type, Livingstone considered the methods to be employed. For a good education depends not merely upon the subjects taught but also upon the way in which they are taught. Every method has its defects and limitations, and different methods favor different subjects and develop different virtues. The appropriateness of the different methods varies also with the ability and age of the students. Effective methods may be based on the main principles of the movement which stems from Rousseau, Rabelais and Montaigne:

> The child must be active, not passive. Education is to be a process of living, not a preparation for it. The school is a place, not for giving a body of authoritative information but for developing the child's creative powers. Teaching must not outrun his experience or attempt to plant in him knowledge which has no roots in his own life. Literary study is to be reduced or even abolished.[15]

While Dewey is right in saying that the child should be formed by contact with the world, it cannot be merely the everyday world; rather it must be the world at its best. A sense of values must be imparted, and this is best done by showing the students the first-rate in all fields until they are satisfied with nothing less. But to teach them these ideals is not enough; to know the good is not the same thing as to do it. Hence it is important that our early education inculcates good habits by creating conditions which will automatically develop and stabilize character. There is no better place for this than the boarding school, "the best training ground for citizenship in the world.[16]

Analysis is an important method of education, and is receiving emphasis in our schools. It is even more important, however, to draw out habits of aesthetic appreciation, to teach people to see and feel. Associated with aesthetic appreciation, a method of great value which is not receiving sufficient attention is memorization, particularly of the Bible and of other great literature. At the time, the students will resent this method, but these treasures stored in the memory will in time be illuminated by life and in turn illuminate it. Examinations, on the other hand, "are the curse of education."[17] Though they are necessary to concentrate the mind and to make knowledge precise, to test industry or ability and to spur the pupils on to greater effort, they become a corrupting as well as a stimulating influence.

The most striking fact regarding educational methods is how little we really know about them.[18] Education, like medicine, deals with individuals no two of which can be counted upon to respond

15. *Ibid.* p. 120.
16. *Ibid.* p. 42.
17. Sir Richard Livingstone. *Education and the Spirit of the Age,* p. 106.
18. Sir Richard Livingstone. *The Rainbow Bridge,* p. 32.

in exactly the same way. We need, therefore, to be always watchful and to continually ask ourselves what is happening. In short, we must use the technique of clinical study.

Passing from the restricted field of education in its formal sense to education within the society at large, Livingstone observed that

> the majority of our education does not pass by that name and takes place outside the school and university. The home educates, conditions of living and work educate, newspapers, films, advertisements educate; above all, public opinion, the accepted standards of good and evil, right and wrong, educate.[19]

These agents of education are at least as effective as what goes on in the classroom; for people are sensitive, imitative creatures, unconsciously moulded by the atmosphere which they create. It is therefore essential that homes, living conditions, books, newspapers, magazines, movies, the theatre and television be good. Otherwise, they will defeat the purpose of the schools.

Sir Richard's standpoint on education has many attractions. Aside from the fact that its protagonist was a thinker, scholar and administrator who commanded high respect, its sanity, balance and magnanimity are impressive. We are indebted to him for his critical analysis of contemporary education, for the forceful expression of old ideas and ideals in terms of new needs, and for the vision of what life can mean to people when education enables them to get the most out of it. Few sensitive persons in the western world could read his works without feeling unlifted, enriched, and challenged to excel.

NOTE: Sir Richard's theories regarding his main field of interest, adult education including university education, are too vast and too significant to come within the scope of this short article.

19. Sir Richard Livingstone. *Some Tasks for Education*, p. 63.

THE ACADEMIC INTERESTS OF FAILING COLLEGE STUDENTS IN ARTS AND SCIENCE

E. R. Oetting
University of Alberta, Calgary

An academic interest inventory was administered to the 1962-63 freshman class at the University of Alberta, Calgary. The test consisted of 132 pairs of statements, describing the kind of subject matter that might occur in high school or college courses. The student made a forced choice indicating his preference for one item of the pair, even though he may like or dislike both alternatives. The test was administered in freshman week after the students had registered in their faculty and programs, and before they had started classes.

At the end of the year successful and unsuccessful college students were selected on the basis of their performance in the university. Successful students were identified as those who had completed the year and were eligible to enter the second year of university work. Failing students were those who had completed the year but were dropped from the university for poor performance, required to repeat the first year, or failed to receive credit for part of their program. Students who were dropped during the year were not considered. The responses to the test items were then separately compared for the successful and failing students in each faculty.

Twenty-four items differentiated between successful and failing students in the first year of the Bachelor of Arts programs (X^2 greater than .05 level). Test results were available for 94 successful and 23 failing Arts students. A summary of the types of items that differentiated between Arts students appears in Table 1. The statements in the test itself are more complete and descriptive, but the phrases in the table summarize the content of the items. An examination of Table 1 indicates considerable consistency in the type of item that was more frequently endorsed by failing students. Most of the items are technical and a number of these involve rather pragmatic practical activities. Several of the other items would involve commercial activity. Opposite these items are descriptions of course material that were selected less frequently by the failing students. Because it was a forced choice test, an item could have differentiated between the groups either because the failing students more frequently preferred one of the alternatives or because they did not like the course content described opposite it. How-

TABLE I

ACADEMIC INTERESTS OF BACHELOR OF ARTS STUDENTS

% of failing	% of passing	Content preferred more frequently by failing than passing students	% of failing	% of passing	Content preferred less frequently by failing than passing students
44	31	Control heat loss	56	69	Cell growth
39	22	Gear ratios	61	78	Methods teaching
57	39	Landscaping	43	61	Interest students in learning
74	43	Chemical isotopes	26	57	Conjugate verbs
52	40	Taxation and finance	48	60	Folk stories and myths
57	39	Formation of jewels	43	61	Teamwork in children
55	43	Theory of numbers	45	57	Origin of words
56	43	Design canals	44	57	Paint scenes
52	27	Make metal castings	48	73	Graph statistics
48	35	Spectra of minerals	52	65	Glands of body
52	30	Friction in machinery	48	70	Geometry
70	53	Plant chemistry	30	47	Furniture fabrics
35	19	Automatic machinery	65	81	Mental Illness
57	46	Analyze languages	43	54	Students personal problems
43	28	Federal Banks	57	72	Roman Empire
78	40	Probability combinations	22	60	Book report
57	30	Theory calculators	43	70	Retail store operation
52	38	Theory of gravitation	48	62	Water supply systems
57	34	Make depth soundings	43	66	Family adjustment
43	25	Social life of ants	57	75	Interview for news
52	39	Sing in choir	48	61	Use microscope
74	54	Interview unemployed	26	46	Write letters
61	43	Inspect with X-rays	39	57	Supervise playground

TABLE II

ACADEMIC INTERESTS OF BACHELOR OF SCIENCE STUDENTS

% of failing	% of passing	Content preferred more frequently by failing than passing students	% of failing	% of passing	Content preferred less frequently by failing than passing students
44	30	Powers of government	56	70	Math equation
			61	80	Foreign language
39	20	Give political speech	33	53	Logarithms
67	47	Induction coils	44	68	Music appreciation
56	32	Company publicity	61	76	Folk stories and myths
39	24	Taxation and finance			
			17	29	Square roots
83	71	Fossils under microscope	36	54	Paint scenes
64	46	Design canals	52	69	Babylonian civilization
48	31	Compute averages			
			25	37	American literature
75	63	Employee morale	39	60	Compare languages
61	40	Labor movement	55	79	Math problems
45	21	History of architecture	29	44	Compare authors
71	56	Paint pottery	56	73	Geometry
44	27	Technique selling	19	43	Read foreign papers
81	57	Fuse porcelain	42	56	Write foreign letters
58	44	Interview unemployed	47	65	Napoleon's Law
53	35	Announce commercials	0	34	Count foreign words
			33	66	Compare foreign art
100	66	Analyze urine			
67	34	Theory electron tube			

ever, just as there is considerable consistency in the descriptions of the items selected more frequently, there is a great deal of consistency in the type of content that was preferred less often by failures than by successful students. A number of the items suggest that failing students are not interested in students and how they function, and other items suggest a dislike of material that might

be found in English or Social Studies courses. When faced with a choice between biological science content and a more technical science, the failing Arts students more frequently preferred the technical science.

Eighteen items differentiated between successful and failing Bachelor of Science students. Test results were available for 91 successful and 36 failing science students. The failing students in the B.Sc. patterns tended to express preferences for course content that was fairly technical and usually quite practical, rather than theoretical, as well as content that would involve activities in politics or business (Table II). Interestingly, they showed a lack of preference for several items that involved mathematics, despite election of science programs. They also expressed a preference for anything involving foreign language or literature much less frequently than did the successful students in science programs.

The tendency for failing students in both Arts and Science to indicate a preference for technical and rather practical course content may indicate one of their problems in adjusting to a college program that is oriented toward theory and underlying principles, rather than practical, applied, factual knowledge. Students in science who tend less frequently to prefer content involving mathematics may also be indicating very directly a source of academic maladjustment. The tendency of failing science students to endorse less often content that involved foreign language or English, and of failing arts students in not preferring English or Social Studies to technical content, suggests that both groups may be less broad in general interests, and may not like to read or express themselves in writing as contrasted to their more successful counterparts.

Counsellors have traditionally considered academic interests in helping students select a college major that they will like and one that will meet their future needs. The results of this study indicate that the counselor might also find it profitable to explore the student's expression of academic interest as an indication of his chances of success or failure in addition to the more usual consideration in selecting the college major. The attitudes underlying these expressions of preference are already formed before entrance to the university. It might also be profitable if we gave further consideration to the kind of influences that tend to develop highly pragmatic practical values in the matriculation students. The counselor should also be sensitive to the kind of environmental influences that lead to a rejection of certain subject areas such as Mathematics, Foreign Languages, English, Social Studies or Education, and should consider the expression of a dislike for certain types of content not only as a reflection of interest, but also as an indicator of potential problems in doing successful college work.

DIFFERENTIAL ACHIEVEMENT IN READING AND ARITHMETIC

By Pupils of High General Ability

MARY H. NEVILLE AND BARRY P. FROST
University of Alberta, Calgary

The Problem

The prediction of the achievement of any child is always of great interest to teachers. Although it is common, at the present time, to use intelligence tests for this pupose, as Mackay and Vernon (1963) say "we cannot simply state—that changes in performance following instruction are identical with some hypothesised intelligence." Ferguson (1954) following Hebb (1949) suggests that intelligence is the result of the interaction of the individual's biological characteristics and learning. He claims that the 'ability to effect positive transfer of experience to a new learning situation' is a vital factor in intellectual functioning. This 'positive transfer' is thought to be analogous to Spearman's 'g' (Spearman 1927), while specific abilities develop as the result of specific learning situations.

As Nancy Bayley remarks, "The very fact that the scores of mental growth in individual children tend to exhibit gradual shifts in relative status supports the theory that a changing organization of factors is in process. Something akin to 'g', or a high first factor loading, must appear soon after the second or third year." (Bayley 1955, p. 808).

Similarly Garrett (1946, p. 375) claims "Over the elementary school years we find a functional generality among tests at the symbol level. Later on this general factor or 'g' breaks down into the quasi-independent factors reported by many investigators. It seems likely that the 'g' factor which appears strongly at the elementary school level is, in large part, verbal and linguistic in nature. If the school child can read well, he can very probably do the rest of his school work well."

This view of 'intelligence' and specific abilities is supported by research showing the change with age of the organization of abilities which in the early grades are very little differentiated (Anastasi 1958, Tyler 1953).

The high positive correlations between the sub-tests of the Wechsler Intelligence Scale for Children (Wechsler 1949) or Thurstone's Primary Mental Abilities Test (Buros 1953, pp. 698-710) also indicate that the child's intellectual functioning is not solely a mani-

festation of separate specific factors.. More specifically, as Jastak (1949) says, "—the number factor and the verbal factor always yield scores that are positively correlated. The independence of these factor has not been demonstrated up to this point."

If this is so then we would expect children, particularly young children, to have very similar achievement in both arithmetic and reading (at least to the extent that these ability factors, referred to above, are predictive of school achievement).

There is much evidence to show that intelligence tests may be useful predictions of scholastic achievement (e.g. Littell 1960) (though one must be cautious—cf. Frost 1963), and this may be so because in the new learning situation of the school the child will function on the basis of his prior learnings which may be more highly correlated with intelligence as measured—i.e. the tests give some indication of the individual's capacity to transfer experience to the new learning situation.

In a previous study conducted by one of us (Neville 1950), it was observed that, although elementary school children with IQ's above 120 (Otis, New Zealand Adaptation) had reading ages (ACER Silent Reading Test Form C) as high or higher than their mental ages, their arithmetic ages (ACER Arithmetic Tests) were almost the same as their chronological ages. Other investigators (Barratt and Baumgarten, 1957, Cleland and Toussaint 1962, and Mitchell 1963) have reported that, while correlation coefficients of approximately 0.60 have been found between reading test scores and intelligence test scores, the correlation coefficients between arithmetic test scores and the latter were only of the order of 0.20. Frequently pupils with high IQ's were found to perform quite poorly in arithmetic while those with low IQ's performed better than predicted. As a result of these findings, Mitchell (1963) has suggested that "the achievement expected—predicted for a given level of IQ—must be established separately for each subject test on the achievement battery."

When the results of "achievers" and non-achievers" were considered separately (Barratt and Baumgarten, 1957), the correlation between WISC or Binet IQ's and reading was nearly the same for both groups, but the correlation for arithmetic and IQ depended upon the group. In the "achieving" group the correlation coefficient demonstrated an almost chance relationship whereas in the "non-achieving" group the relationship was significant. As Littell (1960) comments "this suggests strongly that other important variables are involved."

What variables may these be? One explanation may be found in Strang's statement "Gifted children often help themselves to gain

proficiency in reading," (Strang, McCullough and Traxler, 1961, p. 265). It seems probably that many intelligent children by their own efforts improve their reading ability and hence their vocabulary and language skills. Parents, too, may encourage reading by providing books and library cards, or by their own example. The same effect is much less likely to be seen in the field of arithmetic. It is true that children may speculate on problems involving numbers and perhaps improve their number concepts by their own efforts. But, while they can become more and more skillful in reading after as little as one year of basic training, in arithmetic, unless they are actually taught fundamental skills and computational methods, they will not, in general, possess the 'tools' for independent work of a high standard. At home, parents do not usually provide materials for practice in arithmetic, nor do they have the experience and knowledge to help the child increase his own knowledge systematically. Only recently have books and materials been available which are within the range of convenience of parents—e.g. the Cuisenaire System (Gattegno 1961).

In view of the above data the hypothesis which suggests itself is that children with high IQ's are retarded in arithmetic achievement relative to their "mental" and reading ages.

Method

To overcome, as much as possible, the contamination of the intelligence test scores with the reading factor, it was decided to use a non-verbal test of intelligence. A convenient test, and one known to be highly saturated with 'g' (MacArthur 1962, MacArthur and West 1964) is the Safran Culture Reduced Intelligence Test (SCRIT) (Safran 1960). This test is normed on the Calgary population.

Consequently, this test was given to the entire Grade IV population (92 children of ages 8-0 to 11-11) of a Calgary public school in a new housing development. The socio-economic background of the children ranges from artisan up to professional with a definite weighting in the middle class.

The reading and arithmetic achievement of the children was tested by the California Achievement Battery Elementary (Grades 4, 5 and 6) Form W. Only the arithmetic and reading sections were used, the language test being eliminated. This level of the test was used to ensure that the superior pupils would not gain 'perfect scores'. The reading section of this battery is made up of two subtests, Vocabulary and Comprehension; the arithmetic section of Reasoning and Fundamentals.

Testing was completed within a week. Therefore all test results can be considered to be representative of performance at one given period of the children's development.

The achievement scores of the children scoring above the 85th percentile on the SCRIT were analysed as set out below and, as a follow up to the Barratt and Baumgarten study, the scores of those below the 31st percentile on the SCRIT were also analysed. Using these percentile cut-off points gave us a group of high IQ pupils (Group G) and a group of low IQ pupils (Group D). There were 20 children in group G (10 boys, 10 girls) and 19 children in group D (11 boys, 8 girls).

Using the raw data (for groups G and D separately) product moment correlation coefficients were calculated for the achievement tests and subtests; these are given in Table II.

For the 55 children aged between 9-0 and 9-11 years (29 girls, 26 boys) product moment correlation coefficients were computed for SCRIT and the Achievement tests (raw scores being used). These coefficients are given in Table III.

"High Grade IV" norms were used to convert the achievement test raw scores to percentile scores for groups G and D. These percentile norms provide a simple and clear means of comparison of each child's performance on the different tests as well as a means of comparison of individuals.

Results

The Sign Test (Binomial) was applied to the reading and arithmetic percentile distributions of group G. The computations give a probability of 0.006. Similar calculations for group D give a probability of 0.032. For both groups the reading scores are significantly higher than the arithmetic scores.

This fact is also reflected in the mean percentile scores for the achievement tests and sub-tests shown in Table I. It is obvious that the low Fundamentals Scores are the major source of the differences.

TABLE I

MEAN PERCENTILE SCORES

	Group G	Group D
Vocabulary	90	80
Comprehension	90+	70
Total Reading	95	80
Reasoning	90	60
Fundamentals	50	30
Total Arithmetic	80	50

With the exception of the inter-correlation of the sub-tests, the correlation coefficient for the tests and sub-tests (Groups G and D) are low and insignificant as can be seen in Table II.

TABLE II

CORRELATION COEFFICIENTS FOR READING AND ARITHMETIC TESTS

Tests	Group G (N=20)	Group D (N=19)
Vocabulary and Total Reading	0.85xx	0.90xx
Comprehension and Total Reading	0.84xx	0.93xx
Vocabulary and Comprehension	0.69xx	0.49x
Reasoning and Fundamentals	0.55x	0.39
Total Reading and Total Arithmetic	0.24	0.37
Total Reading and Fundamentals	0.17	0.27
Total Reading and Reasoning	0.32	0.36

xx—Significant at 0.01 level or better
x—Significant at 0.05 level or better

TABLE III

CORRELATION COEFFICIENTS FOR SCRIT AND ACHIEVEMENT TESTS

(N=Girls 29, Boys 26)

	SCRIT		Reading Total	
	Girls	Boys	Girls	Boys
Arithmetic (Total)	0.45	0.38	0.51	0.65
SCRIT	....	....	0.32	0.66

TABLE IV

FREQUENCY DISTRIBUTION OF READING AND ARITHMETIC PERCENTILE SCORES

(High Grade IV Norms)
(Groups G and D)

Percentile Score	Reading Total		Reading Reasoning		Fundamentals		Arithmetic Total	
	G	D	G	D	G	D	G	D
90-99	16	3	17	6	3	1	7	2
80-89	3	7	3	3	1	0	7	3
70-79	0	5	0	1	1	3	3	2
60-69	0	1	0	2	3	1	3	1
50-59	1	0	0	5	5	3	0	4
40-49	0	0	0	2	4	2	0	2
30-39	0	3	0	0	3	1	0	4
20-29	0	0	0	0	0	4	0	1
10-19	0	0	0	0	0	3	0	0
0- 9	0	0	0	0	0	1	0	0
Σ	20	19	20	19	20	19	20	19

TABLE V

RAW SCORES ON SCRIT AND ACHIEVEMENT TESTS

	Boys		Girls	
	$\bar{X}$	S.D.	$\bar{X}$	S.D.
SCRIT	30.50	2.78	29.28	3.60
Arithmetic (total)	49.00	7.16	45.62	9.15
Reading Total	77.31	17.54	76.10	13.19

TABLE VI

CORRELATION COEFFICIENTS FOR SCRIT AND ACHIEVEMENT TESTS

	Arithmetic		Reading	
	High Achievers	Low Achievers	High Achievers	Low Achievers
SCRIT	0.19	0.39	0.18	0.80

Discussion

The results of the Sign test confirm our hypothesis that children with high IQ's are retarded in arithmetic achievement relative to their reading ages. The percentile scores set out in Table I confirm that they are retarded in arithmetic relative to their "mental ages" but that most of the retardation is in "fundamentals" not "reasoning."

Our results show that the same situation is also true of the low IQ group. It would seem that in this sample of children from a middle class background, irrespective of IQ level (within the "normal" range) reading attainment is considerably higher than arithmetic attainment (at least as far as fundamentals are concerned).

The correlation coefficients set out in Table III demonstrate that there is some large degree of truth in Jastak's remark quoted above. There is a significant lack of independence in reading and arithmetic scores. In fact the reading scores were as good a predicter of arithmetic attainment as the non-verbal intelligence test scores.

As far as boys are concerned our results support Barratt and Baumgarten's statement that intelligence tests predict reading better than arithmetic, but our results show the opposite to be true for girls. As can be seen from Table V, part of the reason for this sex difference is the girls' smaller variance in reading scores and larger variance in arithmetic as compared with the boys.

Splitting the 9 year old distributions (on Reading and Arithmetic separately), at the median, to give high and low achieving groups on reading and arithmetic respectively, and correlating the scores with the SCRIT, gave the results of Table VI. It can be readily seen that these figures do not confirm the findings of Barrett and Baumgarten

referred to above. Presumably the correlations discovered will vary with the intelligence test used. Another factor here is the narrow variance of the SCRIT scores at the upper levels of achievement.

It may of course, be argued that the norms for the California Achievement Battery are U.S. norms, even though they are the result of very careful nation-wide representative sampling, and that they are not applicable to this sample of children from a new housing sub-division in Calgary.

To affect our argument it would have to be the case that U.S. children were worse in reading and better in arithmetic than our children.

The "Fundamentals" test is a test of the traditional compartmentalised arithmetic and from grade III onwards our children have followed a new arithmetic course largely influenced by set theory (Hartung, Van Engen and Knowles, 1955). Tests have shown, however, that children following this new course are, if anything, better in computational skills than those following the old course. (Lindstedt, 1963). If a Grade IV child is able to add, subtract, multiply and divide correctly, using whole numbers only, his score will fall on the 95th percentile of the California Test norms.

It seems possible, as Harris (1961) has pointed out, that mediocre performance of intelligent children in some aspects of arithmetic may be due to a type of teaching which aims at uniformity of achievement in a class. In the teaching of reading there is some recognition in the schools, of the tremendous range in level of performance and rate of change (Olson, 1957; Frost, 1963). The same teachers teach arithmetic but do not seem to allow for variance in performance in this subject as they do for reading. Yet it is here even more than in reading that special teaching and materials should be made available to the able learner. Although a special program would be of great help to him in reading, the able learner may partly work out his own development by the very nature of our "school culture" which is biased verbally and provides for the middle class child many opportunities for sophistication of reading. He does not have the same natural opportunities to develop mathematical ability and yet relative innumeracy is, in the 20th century technological culture, as important as relative illiteracy.

There has been a good deal of discussion about the question of a 'ceiling' to the individual's ability to learn mathematics (Bateman 1960), and it is commonplace to hear of otherwise intellectually competent children, who cannot 'do' mathematics. It is difficult to see why a child who functions at a high level in other cognitive activities should necessarily be impotent in the field of numbers.

New approaches to arithmetic whether of the "structural" type (Stern, 1949, Cuisenaire and Gattegno, 1954, Gattegno 1960, Dienes 1960, Williams 1961, 1962) or of the "pattern of thinking" kind (Hartung, Van Engen and Knowles 1955, Lindstedt 1963), with their stress on the understanding of arithmetical processes and their break with compartmentalisation in favour of an integrated approach, should help greatly to improve the performance of the "innumerate" child. However, the correlation which exists between the subtests of "Reasoning" and "Fundamentals" should remind us of how dependent the child is on the "tools" of computation, and warn us not to overlook the systematic development of, and practice in, these skills (cf. Bruner, 1960).

This investigation is confined in its generality by a) the size of the samples and b) the socio-economic background of the children concerned. Similar results might not be found in children from a working class background where the environment may be much less favorable to the development of reading ability.

It would be very useful to replicate this study using a) larger N's, b)) a wider range of socio-economic backgrounds, c) a wider range of modes of teaching and d) tests normed on the local population.

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AN INVESTIGATION TO IDENTIFY CREATIVITY IN TEACHING

By David J. Chabassol and Gordon G. Manson
University of Victoria

Statement of the Problem

A survey of the literature reveals an almost overwhelming number of studies which have endeavored, in one way or another, to set up research designs which would predict success in teaching. An exhaustive article by Anderson and Hunka (1963) provides a clear picture of the many attempts in this area. The majority of such studies use, as criteria for success in teaching, grades assigned by principals, supervising teachers, other administrators, and faculty of education personnel. Such grades, in turn, are influenced by a multitude of factors, which include ability to maintain discipline, the establishment of effective classroom routines, good questioning techniques, ability to present material logically and clearly, and many more. Conspicuous by its absence in this list of conventional criteria is any specific reference to creativity in teaching, that is, teaching characterized by relatively greater productivity of ideas, perception of relationships, flexibility in behavior, recognition of implications, and originality and imagination. Perhaps the single outstanding feature characterizing this variety of response is that of divergence from common, conventional, or accepted modes of behavior, as elaborated upon in Guilford's (1959) article.

Can a teacher be said to be truly successful if he is not creative? Do we expect to find in the performance of a successful teacher just a repetition of the techniques and methodology which are specifically taught him in a teacher training institution? One would hope that something more than this is necessary; that certain of those elements of creativity, as defined above, would be a sine qua non for success in teaching.

The present study was undertaken with the hope of providing a procedure by which creativity in practice teaching could be identified. More specifically, it was the aim of the writers to devise a practice-teaching rating scale which correlated sufficiently with the tests provided by Getzels and Jackson (1962) as to have substantial predictive value in the identification of creative teachers. It was their contention that, while the Getzels and Jackson tests were not perfected for this purpose, they had been standardized on a norm group which were not too dissimilar in age and I.Q. from the group of students used in the present study. Also, the tests of Getzels and Jackson were judged to be the best tests of creativity available for this particular group.

Method: Explanation of the Study

The subjects were 100 females enrolled in the second year of the teacher training program (elementary) at the University of Victoria. All had attended the university the previous year, and had taken a five course, or fifteen unit offering.

The second year of the teacher training program at the University of Victoria is the professional or basic teacher training year. Once again, fifteen units are required, and all courses but one, namely English 200, are offered by the College of Education. These second year courses are, for the most part, methodology courses in Education.

The subjects were administered a battery of creativity tests, comprised of Word Association, Uses, Fables, and Make-Up Problems tests, as perfected by Getzels and Jackson. Two different testing sessions, of about 45 minutes each, were alloted for the administration of these tests. The content of the Problems test had been reduced from four to two problems in order to accommodate it to the time available for testing. Data available for each student included subtest score results on the Getzels and Jackson tests mentioned above and a Total Creativity Score, made up from the total of the above four subtests.

In an effort to determine the extent to which the subjects were actually giving evidence of creativity in their practice teaching, a Creativity in Practice Teaching scale was devised. The content of this scale was, in large part, based on suggestions made by instructors in the various methodology courses who, with guidance from the authors of this article, undertook to suggest how creativity in the teaching of elementary language, science, social studies, and arithtic might be noted. It was pointed out to these instructors that creativity, for the purpose of this study, was assumed to be characterized by divergence from conventional modes of teaching and all that such divergence implies, as explained above.

Within this frame of reference, the various methods instructors then provided a variety of criteria, in the form of specific teaching practices, which they believed to be indicative of creativity in teaching social studies, science, arithmetic, and language. The resulting Creativity in Practice Teaching scale contained sixteen specific criteria which were to be graded on the basis of one point if the characteristic was "present" in the teaching of the student, and two points if the characteristic was "present in marked degree." These assessments were made over a period of four months, during which time the students were involved in five weeks of actual teaching. Any student whose teaching had been evaluated less than three times was eventually dropped from the investigation. The modal

number of observations was four, with a range of from three to seven. On the basis of the number of investigations, a mean Creativity in Practice Teaching score was determined for each student.

Additional data on each student included the following: SCAT percentile (total score); academic average on the final (April) examinations; and practice teaching grade. The practice teaching grade represents a score based on the assessment of the teaching ability of the student over the period of one academic year. Such a score is derived from a carefully planned assessment form used by both Faculty of Education members and critic teachers. Approximately eighteen or twenty observations enter into the derivation of the final score.

Analysis of Results

Correlations were obtained for a variety of variables, as shown in Table I.

1. The intercorrelations among the Getzels and Jackson creativity measures show only limited agreement with the corresponding intercorrelations obtained by Getzels and Jackson in their study (1962). One is not surprised to find that a greater discrepancy occurs for the correlations involving the Make-Up Problems test which the writers reduced by one half in order to accommodate the demands of time. Omitting these latter correlations, the other coefficients, while positive, failed to reach the level of confidence attained in the Betzels and Jackson study.

   This discrepancy is explained in part on the grounds that the Getzels and Jackson study figures were obtained from a population sample with a very high mean I.Q.
2. The nil correlations between the creative teaching average (item 6) and both subtest and total creativity scores (items 1, 2, 3, 4, and 5) on the Getzels and Jackson instrument are not readily explained. In any event, the purpose to which the writers applied the Getzels and Jackson tests was not fulfilled. Possibly the application of a "molecular" approach to the assessment of creativity offers only limited promise at best in the measurement of creativity in a more complicated, involved, or "molar" activity as practice teaching. The possibility also exists that the creativity in practice teaching scale devised by the authors is not a valid instrument.
3. The correlation between SCAT scores (item 7) and both subtest and total creativity scores of the Getzels and Jackson tests (items 1, 2, 3, 4, and 5) are significant at the .01 level. This is in keeping with the statement of the test makers that while creativity and intelligence are not the same thing they do tend to be positively correlated.

Table I

INTERCORRELATIONS AMONG CREATIVITY AND OTHER VARIABLES

Variable Number	Variable	2	3	4	5	6	7	8	9
1	Word Association Test	.240*	.168	.314**	.604**	.017	.336**	.130	.012
2	Uses Test		.165	—.015	.513**	.007	.291**	.074	.058
3	Fables Test			.031	.308**	—.063	.259**	.253**	—.014
4	Make-up Problems Test				.776**	.018	.281**	.257**	.001
5	Total Creativity Scores					—.008	.431**	.257**	.025
6	Creative Teaching Average						—.057	.037	.629**
7	SCAT Total Score							.425**	—.015
8	April Exam Average								.449**
9	Practice Teaching Average								

4. The correlations between April examination averages (item 8) and both the subtest and total creativity scores (items 1, 2, 3, 4, and 5), while generally lower than the coefficients reported by Getzels and Jackson, tend to support their findings.
5. The correlations between the practice teaching average (item 9) and both the subtest and total creativity scores (items 1, 2, 3, 4, and 5) are nil. This comes as no surprise after considering the finding dealt with in paragraph 2, above. One might suspect that the same or a similar reason might be advanced to explain the lack of correlation.
6. The correlation between creativity in practice teaching (item 6) and practice teaching averages (item 9) is highly significant. Possibly the most obvious explanation is that the form used in assessing practice teaching at the University of Victoria places emphasis on creativity in some or all of its aspects, even though the term "creativity" is not specifically included in the criteria listed for assessment. Another explanation resides in the possibility that the instructors, being required to rate certain lessons both for creativity and for excellence in practice teaching in general, tended to permit their rating on the latter to influence their assessment of the former. However their influence was probably minimized by the fact that the overall practice teaching score was derived from as many as 20 ratings obtained over the course of the academic year, whereas, as noted above, the creativity in practice teaching score was based on approximately four ratings only.
7. The correlation between creativity in practice teaching (item 6) and SCAT scores (item 7) is very low. This low correlation and the insignificant correlation noted between SCAT scores (item 7) and practice teaching average (item 9) may be understood if one considers the contrast between the kind of performance evaluation represented by the SCAT and that undertaken in the assessment of practice teaching. The former represents a pencil and paper approach, whereas the latter is more susceptible to the subjective limitations of observational procedures. A more pertinent explanation, perhaps, rests in the discrepancy between the items evaluated by the two measures. The former presumes to evaluate intellectual functions in the broad areas of verbal and mathematical manipulation, whereas both kinds of practice teaching assessment relate to the examination of such things as adequacy of lesson preparation and presentation, assignment and supervision of seatwork, appearance, appropriate vocabulary, motivational techniques, and maintenance of discipline, to mention a few.

8. The low correlation between creativity in practice teaching (item 6) and April examination average (item 8) is not surprising inasmuch as the latter, concerned largely with educational methodology, would tend to stress convergent thinking abilities.
9. On the other hand, the significant correlation between April examination average (item 8) and practice teaching average (item 9) is not unexpected. Again, since the majority of courses taken during this year feature methodology, one might expect a high correlation between grades on these courses and marks made in practice teaching which, presumably, reflects the extent to which such methodology is being put to use in the classroom. Moreover, students are encouraged to apply in the teaching situation what they are taught in their methodology courses so that a correlation other than the nature of the one found here would be most surprising.
10. The correlation between SCAT score (item 7) and April examination average (item 8) is in the expected direction since correlations between academic potential and academic achievement tend to run between .40 and .60.

Conclusions

What conclusions may be drawn from these data? It should be pointed out that several of the findings might have been predicted. For instance, the subtest and total test scores on the Getzels and Jackson tests correlate significantly, as was reported by their authors. Likewise, the agreement between achievement in examinations and academic ability is about what one would have expected.

However, the major purpose of this study was not to reinforce past findings but to produce a scale which would identify creativity in student teachers. If the assumption used in this research, namely that the Getzels and Jackson tests do in fact measure creativity for our population, was a correct one, then the aim of the study was not realized. Several reasons might be advanced for the complete absence of a correlation between total creativity scores as provided by the Getzels and Jackson tests and creative teaching averages provided by the instrument prepared by the authors.

1.) The possibility must be entertained that the scale devised by the authors for the measurement of creativity in teaching is not a valid instrument. Such invalidity might originate in weaknesses in construction or in usage. The former is regarded by the authors as a less likely possibility. The scale was carefully prepared, and the selection of items was felt to be consistent with contemporary views as to what constitutes creative behavior. However, with reference to usage, some possible weaknesses might be cited. It is probable

that the scale was not used with the same degree of discrimination by every rater. Furthermore, the fact that the observer was required to rate the student teacher for general teaching performance as well as for creativity in teaching at the same time might well have resulted in a halo effect. That is, the good teacher automatically becomes the creative teacher even though there are many elements influencing the former assessment which should not necessarily influence the latter. This would explain the high correlation (.629) found between these two scores.

2.) A further explanation for the lack of agreement between Getzels and Jackson test scores and creativity in practice teaching scores lies in the possibility that both of these instruments were in fact measuring creativity but in substantially different ways. As noted above, the Getzels and Jackson tests assess creativity with reference to extremely specific areas of ability, i.e., elaboration, flexibility, variety of production of ideas—in short—divergence, whereas the scale employed by the authors uses an approach which is, basically, much more general. That is, whereas the former is essentially molecular in its attack on the problem, the latter is basically molar.

3.) A final explanation for the lack of agreement between these two purported measures of creativity must be considered. The possibility exists that the scale devised by the authors does in fact measure creativity in practice teaching while the tests supplied by Getzels and Jackson do not. It should be pointed out that the Getzels and Jackson instruments were not specifically devised for the purpose to which they were put in the present research. As was noted above, the authors selected these tests, not because of their proven ability in the area of practice teaching, but because of their latent promise.

It is perhaps pertinent to note that the Getzels and Jackson tests have never been standardized on persons who have achieved success in creative endeavors. Getzels and Jackson apparently would have us believe that the individual who does well on these tests is necessarily creative because, by their definition, these are tests of creativity. A remark by Burt (1962, p. 295) is of interest at this point. In his review of the text, *Creativity and Intelligence,* in which Getzels and Jackson introduce the tests used in the present study, Burt notes, ". . . Getzels and . . . Jackson . . . apparently expect us to accept their tests as both reliable and valid without any direct or objective evidence . . ." If, in fact, these tests are not valid, the validity of the assessment of creativity in practice teaching scale devised by the authors is strongly suggested.

Suggestions for Further Research

What suggestions could be made for the guidance of anyone who might wish to investigate in this area in future?

The writers recommend that the ratings of creativity in practice teaching and of general excellence in practice teaching not be done at the same time. As noted earlier, the grade given on the latter might influence the assessment of excellence in practice teaching in most teacher training institutions. Students feel, correctly or otherwise, that they must conform to what they consider to be expected teaching behavior. Consequently, any creative propensities might, in effect, be suppressed in the desire to please the faculty observer.

The above observation leads to the further recommendation that creativity in teaching be assessed when teachers have finished their professional year of teacher training and are operating in their own classrooms. Presumably, at such a time they would be relatively free to do as they wish, and the need to conform to someone else's conception of good teaching practice would be absent. In short, they could be as creative as they wished without fear of censure.

It is further suggested that more time and direction be given to those people carrying out the assessments of creativity in the classroom. The typical college of education faculty member, excellent though he may be in his own field, is not necessarily equipped to assess creativity in others without considerable prior instruction as to what is involved.

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SOME EFFECTS OF MENTAL HEALTH INSTRUCTION ON CHILDREN'S MANIFEST ANXIETY SCALE SCORES[1]

METRO GULUTSAN
University of Alberta, Edmonton

Mental hygienists are turning to the schools for help in their attempt to reduce the social and psychiatric morbidity which, exclusive of minor maladjustments, is expected to afflict one out of eight pupils now in school. Since it is impossible to alter significantly this proportion by working with individual children in clinics, there is need for preventive action with groups of children in school when children are in their formative years. It has been proposed by the Committee on Preventive Psychiatry (1951) that direct instruction in mental health might provide such preventive action.

To be effective, mental health instruction should go beyond relaying information; it should try to prevent emotional disturbances. It should help boys and girls to cope with the destructive effects of emotional conflicts by increasing their skills in managing these conflicts. To teach these skills—if it is possible to teach them—the teacher needs an established, tested program.

The specification of an instructional program in mental health is complicated by the lack of clarity as to what is 'mental health.' Marie Jahoda writes, in the introductory paragraph of *Current Concepts in Mental Health,* "There is hardly a term in current psychological thought as vague, elusive, and ambiguous as the term 'mental health' " (Jahoda, 1958). Yet, there is widespread agreement that mental health is worth promoting in the classroom. Evidence that educators think so may be found in the more recent courses of study, texts, and instructional side concerned not only with guidance and health but also with social studies, language arts and expressive arts.

Instruction in the experimental projects reported by Rosenthal (1952), Ojemann (1953), and Seeley (1954) includes the following:

(a) permissive and unstructured discussion of problems suggested by the pupils;

(b) role-playing or sociodrama;

(c) catharsis, or the expression of feelings that are troublesome;

(d) materials which emphasize the dynamic, as contrasted with the surface or superficial, approach to behavior;

1. This article is based on a Ph.D. dissertation submitted in 1962 to the Graduate Division of the University of California, Berkeley. The author wishes to express his appreciation for the guidance received from his advisor, Dr. F. T. Tyler. Acknowledgment is made of the valuable cooperation received from (a) the teachers of the Moose Jaw, Canada, schools who participated in the study and (b) the superintendents of schools, Mr. D. C. MacFayden and Mr. A. E. Peacock.

(e) stories which stimulate discussion of human relations and encourage pupils to relate similar experiences of their own; and

(f) stories with characters which serve as models for pupil identification.

Classroom instruction is under the direction of the teacher, and the approach to health instruction is thus closely related to the teacher's attitudes toward human behavior. A teacher who is sensitive to and has interest in people may add to the effects of the special instruction by increasing the pupils' skills in managing emotional conflicts. On the other hand, a less sensitive teacher may unknowingly evoke emotional conflicts in pupils without demonstrating the skills for managing such conflicts. Further, teachers in demonstration programs have probably been personally attracted to mental health projects, or have been specially selected and trained, the initial attitudes of these teachers may have contributed in significant ways to the outcomes. In the present study, the writer examines the effects of teachers with differing conceptions of human behavior but working with the same program.

A central problem in mental health is the management of anxiety. It is essential that the mentally healthy person must be able to tolerate, experience, and even anticipate anxiety (Jahoda, 1958); and for this reason the mere absence of anxiety is no longer regarded as a satisfactory index of mental health. However, because the manner a person uses for managing anxiety is difficult to determine, levels of anxiety continue to be used as rough indicators of mental health. Kitano (1960) is among the recent investigators to use levels of manifest anxiety as indices of mental health among school children. Also high levels of manifest anxiety have been found to be characteristic of:

(a) children treated at mental health clinics, especially those diagnosed as extremely disturbed (Rynerson, 1957),

(b) children displaying difficulties in learning when highly motivated (Sarason and associates, 1960), and

(c) children in adjustment classes or on waiting lists for adjustment classes (Kitano, 158).

It seems reasonable, therefore, to the present investigator that teachers with differing attitudes toward human relations may affect differently the manifest anxiety level of pupils; and they may affect differently the outcomes of the instruction they undertake.

Procedure

Data were collected in order to obtain evidence for or against the hypothesis that a mental health instructional program will influence the manifest anxiety of children and that this influence will also

depend on the teacher's attitude to human relations. Test and retest data on the children's manifest anxiety scale (CMAS) were obtained for grades four, five and six in both the experimental and control classes. The scale was administered by the classroom teachers on the Monday morning beginning, and the Friday morning ending, the ten-week period. Data for the teachers in these classrooms were obtained on the SM scale, by the writer.

Subjects and Design

Forty-two teachers and 840 pupils from fourth, fifth and sixth grades in Moose Jaw, Canada, were the subjects of the investigation. Originally, the number of pupils was slightly larger, but some were omitted in order to provide for equal cell size and computational convenience in the 3 x 2 x 2 analysis of variance design. Each cell contained 70 cases drawn from seven classrooms. Cases were excluded by the use of random numbers. Manifest anxiety scores were obtained for all pupils at the beginning and at the end of a ten-week experimental period.

The teachers were divided into three groups according to their scores on the *Social Maturity Scale* administered about three weeks before the beginning of the experiment. Half the number of teachers in each group were randomly assigned to the experimental group and were requested to undertake the special instruction in their classrooms. All teachers so assigned agreed to carry out the special program. The remaining teachers and their pupils formed the control group in the study.

Meetings with Teachers

The writer met with the teachers shortly after the opening of the fall term. Arrangements for teachers to leave their schools for the afternoon meeting were made by the two superintendents of the Moose Jaw area schools. At this meeting, the writer described the nature of the study, sought the teachers' co-operation, instructed them on the administration of the *Children's Manifest Anxiety Scale*, and administered the SM (Social Maturity) Scale to the teachers.

The twenty-one teachers who were asked to teach the special unit in mental health were given a list of readings (Jennings, 1950; Ojemann, 1953; Ross, 1957; Saskatchewan Department of Education, 1956, p. 17; Seeley, 1954; and Shacter and Bauer, 1948, pp. 17-24), and attended three ninety-minute meetings during regular school hours. The first meeting, held on the first day of the experimental period, was devoted to the introduction of readings, the sequence of instructional periods, and the procedures for role-playing and for

conducting the unstructured and permissive discussions of problems in human relations suggested by the children. The second meeting, held at the end of the second week, was devoted to the film shyness (National Film Board of Canada, 1952) and, in particular, the episode on human relations discussions. The third meeting, held at the end of the fifth week, was devoted to a discussion of the teachers' own experiences with the program.

After they had had the opportunity to try the special procedures they observed in their own classrooms the writer's demonstration of the relatively permissive, unstructured, and group-directed discussion procedure. Further, the writer conferred with each teacher on two occasions; once immediately after the classroom demonstration; and again during the sixth week of the ten-week experimental period. The writer interviewed each teacher regarding progress with the procedures, but it was not feasible to keep records of these conferencs.

Instruction Undertaken by Teachers

Each teacher received a guide[1] consisting of general information, a schedule, and a set of instruction forms with spaces for brief reports. He was asked to allot to the project the two half-hour periods each week that would normally be devoted to health instruction. As the instructional material was related to the content of the Saskatchewan curriculum guide for health, school time for it was readily available.

The instruction forms, one for each period, contained a brief description of the type of instruction to be undertaken during the period and sufficient space for brief reports and comments from the teachers. The completed forms were gathered at meetings and during class visits. Thus, there was a check on the progress of the lessons in the schools.

Analysis of Data

Analysis of Children's Manifest Anxiety Scale Scores

In Table I means of CMAS scores at the time of initial testing are classified according to sex of pupils and teachers' social maturity ratings. The marked differences between the scores of girls and boys reported for their standardization sample were also found to characterize the sample in the present study.

The discovery that children with teachers scoring low on the SM scale tended to score higher on manifest anxiety is of more than passing interest. The differences between the scores of children with different types of teachers are significant at the .01 level (See Table 2). The nature of the relationship between teachers' attitudes

1. Available from author.

and children's manifest anxiety is not, however, the central issue in the present study. It is not known whether teachers who are low in social maturity tend to be assigned to classrooms where children are more anxious or whether teachers with differing attitudes affect differently the level of anxiety in children. The teachers' knowledge of pupils prior to the experiment was not surveyed and, therefore, no valid inferences are possible.

TABLE I

MEANS OF CMAS SCORES AT BEGINNING OF EXPERIMENT

	Teachers' Placement on the SM Scale				
Group	Upper Third M	Middle Third M	Lower Third M	Whole Group M	Whole Group S.D.
Boys	14.4	13.8	16.9	15.0	7.2
Girls	17.4	17.9	18.4	17.9	8.1
Both Sexes	15.7	15.9	17.7	16.5	7.8

TABLE II

ANALYSIS OF VARIANCE OF CHILDREN'S MANIFEST ANXIETY SCORES OBTAINED BY 840 GRADES 4, 5, AND 6 CHILDREN AT START OF MENTAL HEALTH INSTRUCTION

Sources of variation	Degrees of freedom	Mean Square	F	F .05	F .01
Instructional grouping	1	175	3.02	3.84	6.66
Type of teachers	2	329	5.68	3.00	4.62
Sex of pupils	1	1836	31.69	3.85	6.66
Within cells	835	57.94			

The means for the changes in CMAS scores for each of the cells used in the analysis of variance are given in Table 3.

A report of the analysis of variance of difference scores on *Children's Manifest Anxiety Scale* appears in Table 4. It should be noted that the analysis is based on the scores of the individual pupils and not on the means of groups of children.

The only statistically significant result in Table 4 is the one associated with differences in instruction. In fact, the F ratio was large enough to be considered significant at beyond the .005 level of confidence. No statistically significant ratios were obtained for the types of teachers or the sex of pupils. It may be inferred, therefore, that the type of instruction that formed the mental health

TABLE III

MEANS FOR CHANGES IN THE CMAS SCORES OF BOYS AND GIRLS UNDER THREE KINDS OF TEACHERS AND EITHER RECEIVING OR NOT RECEIVING SPECIAL INSTRUCTION IN MENTAL HEALTH (N=70 PUPILS PER CELL)

Type of Treatment	Sex of Pupils	Teachers' Placement on the SM Scale: Upper Third	Middle Third	Lower Third	Whole Group
Special Instruction	Boys	1.54	.10	.10	.63
	Girls	— .11	.89	—.13	.21
	B & G	.71	.49	—.01	.40
No Special Instruction	Boys	—1.27	—.56	—.99	—.94
	Girls	—1.63	—.11	.37	—.46
	B & G	—1.45	—.36	—.31	—.70
Whole Group		— .37	.08	—.16	—.15

TABLE IV

ANALYSIS OF VARIANCE OF DIFFERENCE SCORES IN CHILDREN'S MANIFEST ANXIETY SCORES

Source of Variation	Degrees of Freedom	Mean Square	F	F .05
Instruction (I)	1	280.01	8.16	3.85
Teachers (T)	2	20.34	.59	3.00
Pupils' Sex (S)	1	5.73	.17	3.85
I x T	2	44.68	1.30	3.00
I x S	1	26.56	.77	3.85
T x S	2	62.81	1.83	3.00
I x T x S	2	21.66	.63	3.00
Within Cells	828	34.30		

program in the present experiment, and developed on the basis of previous work in the area of teaching specifically for mental health in schools, did influence the amount and direction of change on a measure of manifest anxiety. It may be observed from Table 3, that *manifest anxiety scores tended to increase in those classrooms in which a program of special instruction was carried out, and tended to decrease in those classrooms that formed the control group and had no special instruction.* The changes of .40 and -.70 for the experimental and control groups shown in Table 3, indicate an increase of 2.5% and a decrease of 4.1% respectively. There were no significant differences in change scores for the sexes or for the three kinds of teachers.

The findings are at variance with those the writer initially anticipated. As expected, the changes were greatest for those pupils whose teachers were high on the SM scale, but contrary to expectations, the changes for the group receiving no special instruction were greater than those for the experimental group. The changes were smallest for those children whose teachers were low on the SM scale and who received the special instruction, In short, the changes were not in a mental health direction if a decrease or lowering of manifest anxiety is taken as a criterion of mental health. It has been observed by Rogers (1957, p. 95) that anxiety often increases during psychotherapy. He states, "Anxiety is often seen in therapy as the individual approaches awareness of some element of his experience which is in sharp contradiction to his self concept." It appears that increasing one's sensitivity to, and awareness of, human relations may contribute to an increase in manifest anxiety as part of the process of personality integration.

The decrease in manifest anxiety noted for the control classes was larger in absolute terms than the increase noted in the experimental classes. The decrease may reflect increased stability in children arising from increasing familiarity with the school, classroom and peer-group environment. As the children become better acquainted with the environment, and find satisfying relationships in it, their anxiety may go down. Perhaps the instructional program made the children more willing to admit to an anxiety, a possible alternative explanation in view of the fact that anxiety was identified by a self-report inventory. It would be interesting to know whether the initial and final scores in other studies using the CMAS over a period of time show changes in a uniform direction. Manifest anxiety as measured by these tests may not be the same as anxiety regarded as unhealthy. Also, a child who admits to more manifest anxiety may, in some instances, be striving toward improving his mental well-being.

The mental health instructional program did have a significant effect on the extent and direction of changes in CMAS scores. Changes in CMAS scores for children with teachers differing in attitudes were not significant. Initial CMAS scores, however, were significantly higher for those children whose teachers scored in the lower third on the *Social Maturity Scale.* It should not be inferred, however, that teachers' attitudes are unimportant variables in a mental health instructional program. Some interesting and significant differences were detected in the way high and low scoring teachers approached, and reacted to, the mental health instruction (Gulutsan, 1962).

Conclusions

An analysis of variance design was used to test the effect of ten weeks of mental health instruction on the size of changes in Children's Manifest Anxiety Scale (CMAS) scores of intermediate grade children taught by teachers who differed on a measure of social maturity. The instruction did have an effect, significant at the .005 level, on CMAS score changes; however, the effects were not different for the different teachers. Manifest anxiety increased in children receiving the instruction and decreased in the control group. Children had higher initial CMAS scores, significant at the .01 level, in classrooms whose teachers were low in social maturity.

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RELATIONSHIP BETWEEN ACHIEVEMENT SCORES AND SELF-ESTIMATES

S. B. Kakkar
Government Training College For Teachers
Jullundur, India

Achievement in subjects depends upon the knowledge and information within an individual's conscious mind. It does not tap the unconscious. Thus the individual is well aware of how well he has fared in the subject. Some relationship would be expected between his achievement scores as awarded by the examiner and an independent self-estimate of his performance. To prove this HYPOTHESIS and to determine the magnitude of such relationship the present study was undertaken.

Method

An essay type three-hours' question paper containing 15 questions of Educational Psychology syllabus that they had covered in the classroom was given to 48 teacher-trainees (23 boys and 25 girls) with a note to attempt any five questions; each question carried 18 marks. Shortly afterwards the scripts were evaluated by the investigator (their lecturer in Psychology) and the awards (achievement scores) kept away. No marks were put on the scripts. A week later the investigator told the trainees his own answers to each of the 15 questions with instructions that they should evaluate their answers keeping in view the answers which were expected of them. The independent self-estimates of their performances were thus collected. Efforts were made to control other factors which could affect the trainees' self-estimates. To do this the investigator read every word of the answers and awarded marks on the basis of the answers he had in his mind, and the trainees were required to put their own award on an answer immediately after they heard the investigator's corresponding answer. The only thing kept fluid, as far as possible, was the evaluative ability.

Table I
MEANS AND STANDARD DEVIATIONS OF THE SAMPLE

Scores	N	Means	Standard Deviations
Achievement Scores	48	40.6	8.9
Self-estimates	48	41.4	7.1

Means and standard deviations of the achievement scores and self-estimates were calculated and the correlation coefficients for the two evaluations computed, using the Pearson product-moment method.

TABLE II

MEANS AND STANDARD DEVIATIONS AND MEAN DIFFERENCES, FOR BOYS AND GIRLS IN THE SAMPLE

Sample	N	Means		Standard Deviations	
		Achievement scores	Self-estimates	Achievement scores	Self-estimates
Boys	23	36.9	39.6	9.1	7.4
Girls	25	44.5	43.2	8.7	6.8
Difference	.....	— 7.4	— 3.6	.....	.....
Significance	.....	.001	.001	.....	.....

TABLE III

CORRELATION COEFFICIENTS (r) AND STANDARD ERROR (SE) (CALCULATED THROUGH CLASSICAL FORMULA)

	N	r	SE
Between achievement scores and self-estimates in general	48	.75	±0.6
Between boys' achievement scores and self-estimates	23	.80	± 007
Between girls' achievement scores and self-estimates	25	.62	± .12

Interpretation

1. Of the 48 students 16 were found above average, 13 average, and 19 below average in their achievement.

2. Considering the mean of self-estimates, 16 were found above average, 15 average, and 17 below average.

3. The range of achievement scores is 34, while that of self-estimates is 28, showing that the dispersion of achievement scores is larger than that of self-estimates.

4. The achievement scores deviate more from their mean than the self-estimates from their mean. The two evaluations are thus patterned differently.

5. On the whole the trainees over-estimate themselves though the magnitude of this over-estimation is not much.

6. Girls on the average score considerably more than the boys in their achievement, as well as in their self-estimates.

7. Boys on the average over-estimate their performances, while the girls under-estimate their performances a little.

8. Whereas the girls on the average score above the means of the sample both in their achievements and self-estimates, the boys generally score below the said means both in their achievements and self-estimates.

9. Girls' scores both in achievement and self-estimate deviate less from their means than boys' scores from their means.

10. The correlation coefficient between achievement scores and self-estimates of the trainees is as high as .75 with a standard error of -.06, while the r's between achievement scores and self-estimates of boys and between those of girls are .80 and .62 respectively. Boys have been able to judge their performance better and more accurately than the girls.

Conclusions

There is a significant relationship between achievement scores and self-estimates, this relationship being somewhat greater in the case of boys than in that of girls. This also reflects the fair validity of essay-type examinations, which are often decried, in relation to self-estimates. Students may not be poor judges of their own performance provided they know what is expected of them.

And if they know before the examination what kind of answers are expected of them, they may come up to the instructor's expectations in the matter of their subject-achievement. This fact warrants the need of discussing in the class specific questions on a topic after it has been taught. The lecture method needs to be supplemented by discussion and assignment methods to give students an experience of handling questions and applying the theoretical concepts in everyday use.

A BIBLIOGRAPHIC SURVEY OF LITERATURE CONCERNING THE PLACE OF GRAMMAR

HOWARD G. AMBURY

That pupils do not use their native language with sufficient competence is stated frequently by both critics of education and by educators themselves. How pupils are to be brought to obtain this competence is a question about which there is much less agreement. One solution frequently proposed is grammar—or some particular kind of grammar. What is the place of grammar in the teaching of English language in the schools is a question that has evoked a vast literature. It is a question as old as Plato and as current as the latest issue of the *English Journal.*

Formal Grammar and the Traditional Approach

A study of the history of grammar reveals that while grammar was a subject of study in Greece and Rome, it was studied more for its own sake and for literary criticism than for any supposed powers to improve the students' use of their language. It is not clear at what point in the development of Western culture grammar became attached to language teaching. Priscian, in the early part of the sixth century, A.D., used grammar to teach Latin at Constantinople. In the Middle Ages—when the knowledge of Latin among the Church scholars in Europe had become hazy—Latin accidence was called upon to improve this knowledge of Latin. Later, when English became established as a subject of study in the schools, grammar was included in this study. Since the English grammar texts were based on earlier Latin grammars, much of what they included was Latin grammar. Dykema notes that, "Grammar (English grammar based on Latin accidence) became so integral a part of Western educational practice that a faith in it was acquired with the education itself." (18: 8) It was during the eighteenth century that the theoretical grammarian became a militant force in the regulation of the English language. According to Baugh:

> The grammarians (of the eighteenth century) aimed to do three things: (1) to codify the principles of the language and reduce it to rule; (3) to settle disputed points and decide cases of divided usage; and (3) to point out common errors, or what were supposed to be errors, and thus correct and improve the language. All three of these aims were pursued concurrently. But the grammarian set up as law-giver as well. He was not content to record fact; he pronounced judgement. (3: 341)

Robert Lowth and William Ward, grammarians of this type, published grammars in 1762 and 1765 respectively which have been models until quite recent times. Hatfield comments as follows:

> (In) some of the composition books of 1910 . . . the treatment of grammar was exhaustive, the organization was strictly on the Latin model . . . Language constructions were either right or wrong, very often depending upon the personal taste (*alias whim*) of the author of the textbook in use. (28: 5)

Sawicki, reporting on the teaching of English language in Alberta from 1905 to 1955, found a traditional grammar dominating the curriculum as late as 1922. He says:

> . . . grammar and rhetoric were taught in a formal manner, as a separate subject from composition . . . justified on the grounds that it gave excellent training in logical reasoning . . . and built moral fibre. (48: 144)

The present status of formal grammar in language teaching is dealt with in the next section.

Although the question of what traditional grammar is cannot be readily answered with any single definition, the following list of some of the attitudes attributable to traditional grammarians may serve to delimit the term:

1. A large proportion of students' time is occupied in learning rules and definitions;
2. These rules and definitions are based partly on Latin grammar, partly on the intuition of the grammarians, and partly on the authority of earlier grammarians such as Joseph Priestly.
3. These rules are believed to have some universality of application. That is, language which accords with the rules is 'correct', while language which does not so accord is 'incorrect' at all times and in all cases.
4. Students apply their knowledge of the rules and definitions to the analysis—parsing or diagramming—of sentences and to the correcting of errors in sentences contrived by someone else.
5. The method of teaching is authoriatative and deductive, rather than pragmatic and inductive.
6. Grammar is felt to be a form of discipline for the mind, training the mind to think logically. Logical thinking learned in grammar exercises is expected to transfer to other areas of thought.
7. Grammar, composition and literature are thought to be three separate and distinct studies.

This kind of grammar has been attacked by very many writers using many different arguments. These objections may be summarized as follows: (1) Formal grammar is not a true description of the English language; (2) To analyse the structure on the basis of meaning is to attack the problem the wrong way round; (3) The transfer from knowledge of grammar to the improvement of language competence has not taken place; (4) The structure of English cannot be described in terms of a highly inflected language such as

TABLE I

A SYNOPSIS OF SEVERAL INVESTIGATIONS RELATING TO GRAMMAR AND COMPOSITION

Investigator and Date	Ref.	Place	Nature of the Study	General Findings
Hoyt, 1906	30	Indianapolis	Compared knowledge of grammar with ability in composition and ability to interpret poem	All correlations were less than 0.30.
Rapeer, 1913	45	Minneapolis	Repeated Hoyt's experiment.	Found similar low correlations.
Asker, 1923	2	Washington	Compared grammar knowledge with sentence sense and composition ability.	Corr. of grammar with sentence sense =0.23; with composition ability =0.37. Both low.
Symonds, 1930	52		Classes taught by five methods and by a combination of all methods.	Combination superior to any single method.
Chalmers, 1941	11	Alberta	Compared knowledge of grammar terminology, grammar analysis skill, extent of vocabulary, composition ability, and prose appreciation.	Only significant relationship was between grammatical analysis and ability in prose composition.
Edmiston and Gingerich, 1942	19		Compared knowledge of usage rules with ability in prose composition.	Knowledge of usage rules does not bear a high relationship with composition ability.
Butterfield, 1945	8	Iowa	Taught matched groups punctuation by functional grammar and by thinking approach.	Those taught grammar learned more grammar but did not improve ability to punctuate.
Silvy Kraus, 1957	32	Oregon	Classes taught by three different methods.	Teaching sentence structure in relation to actual writing practice was most effective.
Robinson, 1959	47	England	Compared marks on grammar tests with marks on essays.	Knowledge of grammar does not significantly improve composition ability.

Latin; (5) The structure of English is not logical but natural: thus formal English grammar cannot train the mind in logical thinking; (6) Children's errors are too varied and complex to be eradicated by rules; (7) Too great emphasis on correctness inhibits the free expression of pupils; (8) The traditional analysis of sentences is an ineffectual waste of the time of pupils and teachers alike. The present writer agrees with Dora V. Smith when she says:

> Obviously, the only scholarly attitude to be taken on this question at the moment is one of serious questioning concerning the efficiency of grammatical knowledge in improving speech and writing. (49: 646)

Evidence Concerning the Relationship of Grammar to Teaching English

In the previous section were presented some of the bases on which the teaching of formal grammar has been attacked. In this section the evidence that has been found to support some of these charges is examined.

Formal Grammar in Relation to Communication Skills

A number of investigators have measured the amount of knowledge of formal grammar possessed by pupils and have compared these results with the results obtained by the same pupils on a measure of ability in composition. Several of these investigations are summarized in Table I. These investigations tend to show that formal grammar as traditionally presented has little effect on students' ability in written composition.

Another group of investigators—including Frogner (23)/1933/, LaBrant (33)/1933/, Godwin in Calgary (24)/1955/, and Gray in Grande Prairie (25)/1959/—compared the written composition of pupils in various grades. Taken together, these four studies seem to indicate that as pupils progress through the grades they improve in both the maturity and correctness of their sentence structure. This may be due to: (a) maturation; (b) practice in writing; (c) the effectiveness of the schools' programs of instruction.

Dressel, Schmidt, and Kincaid (17)/1952/ at Michigan State University and Buxton (9)/1958/ at Alberta conducted experiments which tend to show that writing practice alone does not bring about significant improvement in written composition ability. Buxton found that when students discussed and revised their essays in class they significantly improved their scores on the essay tests without detracting from their scores in other subject areas.

Other investigations done by J. D. Clark (14)/1934/, Briggs (7)/1913/, Benfer (4)/1935/, Boraas (5)/1917/, Price (44)-1923, and Catherwood (10)/1932/ tend to support the contention that

formal grammar as it has been taught has failed to improve significantly the English language competence of pupils.

Grammar in Relation to Other Purposes For Which It Is Proposed

1. *In relation to the teaching of foreign languages.* Rivlin (46) /1934/ found that teachers of English language tended to rate many more items of grammar as important to the teaching of foreign languages than did the teachers of these languages themselves. Of the 187 items of grammar tested, only 23 resulted in agreement among the teachers as to their importance. Rivlin agrees with Kaulfers (31), Pooley (42), and Pamela Gradon (20) that English language teachers should teach only those items of grammar that are important to a study of English and that the grammar that is needed for the teaching of foreign languages should be taught in the foreign-language classes. Parker /1941/ at Alberta found that "Stenography II and French II students are greatly handicapped by the fact that they have not mastered formal English grammar." (40: 210) However, certain weaknesses in this investigation cast some doubt on the reliability of this conclusion.

2. *In relation to literature appreciation and reading ability.* Chalmers (11) found little relationship between the ability to appreciate literature and knowledge of grammar terminology. Strom /1955/ found that there was "little, if any, relationship between the pupils' comprehension of ten selected passages of poetry and literary prose and their ability to classify crucial elements of grammar and syntax in the sentences of these passages . . ." (51: 131) No evidence was found to support the hypothesis that the study of grammar is necessary for the improvement of reading or for the appreciation of literature.

3. *In relation to college and university entrance.* Although one reason frequently advanced to justify formal grammar teaching is that the colleges demand that students know grammar, studies made by Smith and McCullough (50) /1935/, Litsey (35) /1956/ and the N.C.T.E. Committee on High School-College Articulation /1961/ fail to support this view. The report of the N.C.T.E. committee concludes:

> The goal in grammar seems to be enough terminology to make the college instructor's theme corrections intelligible to the students . . . In all of these language matters, the college statements ask for a functional knowledge of the material.. To recognize but not be able to use does the student little good. (38: 411)

4. *In relation to the requirements of the Alberta Department of Education.* To determine the grammar requirements of the Department of Education the writer first examined the textbooks author-

ized for use in the English language programs of the junior and senior high schools and the curriculum guides supplied for these programs and, second, he analyzed the examinations set by the Department for grade nine and grade twelve.

The curriculum guides for the various English language programs tend to stress a functional approach to grammar and usage and to stress usage over formal grammar as a guide to what is good language. The textbooks that have been authorized tend to support this philosophy of language teaching. There is, however, a book called *Supplementary Exercises in Grammar*[1] for use in grade nine, and there are numerous exercises in *Creative Composition*[2] for grade ten, and *Guide to Modern English*,[3] a supplementary text for grades eleven and twelve.

To determine the grammar content of the Departmental examinations, the June 1960 examinations in Social Studies-Language B for grade IX and the A and B papers in English 30 were analysed. Of the 213 possible marks on the grade nine paper, 92 could be distinguished as marks for grammar and usage; another 25 marks could be lost for mechanical errors in the essay. Of the one thousand marks available on the two grade twelve papers, 80 could be classified as marks for grammar and usage, while an additional 125 marks could be lost for mechanical errors on the essay. There were no questions in either examination requiring students to analyse sentences or to define grammatical terms. Clearly, although the Department expects students to know a certain amount of grammar and to be familiar with current English usage, they do not require an exensive course in formal grammar.

Formal Grammar as a Description of the English Language

Any literate person who compares his own use of English with the prescriptions of many recent grammars will come to the conclusion that there is something radically wrong with either his own use of English or with the grammars. A further comparison of the rules of the grammars with the findings of such usage researchers as S. A. Leonard (34), Marchwardt and Walcott (36), and C. G. Fries (21) will confirm his conclusion that formal grammar is not an accurate description of the actual usage of present-day speakers of English.

No investigations were found which specifically sought to determine the extent to which formal grammar is a true description of

1. Province of Alberta, Department of Education, *Supplementary Exercises in Grammar for Grade IX*. Edmonton: Queen's Printer, 1958.
2. R. J. and W. C. McMaster, *Creative Composition*. Toronto: Longmans-Green, 1957.
3. Richard K. Corbin, Porter G. Perrin, and Earl W. Buxton, *Guide to Modern English*. Toronto: Gage. (No date given.)

our language, but the following objections put forth by the usage advocates seem to have some validity: (1) languages change much faster than the rules change; (2) efforts in the past—the French Academy, for example—to fix language patterns have signally failed; and (3) languages change, but this change is not *decay*. The usagists suggest that teachers be sure that those usages they condemn in their students' work are those about which there is no doubt.

Formal Grammar as a Current Educational Issue

Some evidence was found that formal grammar is still extensively taught and advocated and that the question concerning the place of grammar in the English language program is a current one. For example, Parker notes that, "Many teachers consulted . . . stated that they used their own texts and taught considerably more formal grammar than was suggested in the outline." (40: 5) The traditional attitude toward grammar as discipline is revealed in an editorial from the *Vancouver Province* quoted in the *Edmonton Journal* of April 23, 1959. The following is an excerpt:

> Grammar is not an exciting subject . . . but it trains young minds to think, it forces them to learn and abide by rules. . . . To scrap grammar would be to scrap the philosophy that learning is a disciplining process.

A teacher from Saskatchewan has described to this writer a lesson presented by the supervising teacher of the Lloydminster School Unit in 1959. The lesson in formal grammar, given to a class of pupils from grade four to grade eight, lasted for more than two hours. Hall (27), Anderson (1), Bossone (6), Pooley (43) and Zahner (54) agree that much of what is taught in the schools is still formal grammar. Day (16) /1951/, from personal visitations at fifty-three different Iowa high schools, concluded that the content and organization of English language courses was determined by the textbook and that grammar and usage were most frequently taught as separate materials from actual speaking and writing situations. Mary Wood Dawson compared the presentation of pronouns in 23 school grammars used during the 1940's with that in earlier grammars and concluded, "Modern books, like those of the past, drill students constantly on names, definitions and rules." (15: 36) Patrick Groff (26) studied several well-known textbooks in English language for the junior and senior high-school grades published between 1955 and 1960. He found that the average of the percentages of their volumes devoted to parts of speech was twenty-eight per cent. In other words, these modern textbooks imply that almost 30% of English language teaching time should be devoted to the parts of speech alone.

A survey of the literature with regard to the relationship between grammar and the teaching of English language seems to indicate

that: (1) formal grammar taught in isolation from its actual use in communication is of doubtful value in improving communication skills; (2) the value of teaching extensive formal grammar for purposes other than communication skill is not established; (3) formal grammar is not an adequate description of the English language; but (4) none-the-less, much formal grammar is still advocated and taught and it is included in contemporary textbooks..

The Alternatives

Critics of the traditional approach to grammar have proposed a wide variety of alternatives. For purposes of simplicity, these are grouped into four 'approaches': (A) The Writing, or Thought, Approach; (B) The Functional Grammar Approach; (C) The Usage-Semantics Approach; and (D) The Scientific Grammar Approach. This grouping of the alternatives is arbitrary and a matter of convenience rather than of fact, since such clear distinctions as are hereby implied do not, in fact, exist. Similarily, though there is the danger of over-simplification in the following generalizations, some attitudes that appear to be common among advocates of each approach are listed. This again is a matter of convenience rather than of fact.

The Writing, or Thought, Approach

The advocates of this approach would tend to agree that: (1) Writing, speaking, reading, listening and social competence are inseparable skills that are best learned together; (2) Pupils will learn to write correctly and effectively when they have something to say that is important to themselves; (3) Writing is learned by practice in writing, rather than by artificial drill in grammar; (4) Experimental evidence shows that the writing approach is effective in improving communication skills; (5) The grammar that is to be taught is to be determined by the actual mistakes that the pupils make in their own writing; and (6) Those elements of grammar that it is found must be taught will best be taught in close conjunction with actual writing practice.

The Functional Grammar Approach

Summarizing the functional grammar approach to the teaching of English language, one might list the following points on which functionalists generally agree: (1) The usage of current, reputable resources is generally to be preferred to rules of grammar in determining what is right and what is wrong; (2) Certain principles and rules of grammar must be taught; (3) A direct, systematic attack must be made to ensure the mastery of both grammar and usage items; (4) The specific items of grammar and usage to be taught are

determined by diagnostic testing and by error counts to determine which items cause difficulty; (5) The attack should be centered on one or two items at a time until these have been mastered; (6) Much writing is to be done by the students and the grammar they have learned is expected to *function* in making their sentences correct and forceful and their paragraphs unified, coherent, and emphatic. Grammar and writing are to be closely integrated; and (7) The teacher dominates the classroom situation. She has prepared a lesson plan covering the five learning steps; she will test the pupils to determine which items to stress; and she will plan the drill lessons to ensure mastery of these items.

Usage and Semantics as Functional Approaches

Many educators feel that formal grammar is imperfect as a description of the actual language, and therefore, not a reliable guide to correct speech and writing. For this reason they prefer to teach that grammar which is a description of the actual language used by reputable speakers and writers. For the sake of simplicity, this type of grammar is often called *usage*. The usage approach is not properly a different approach to the teaching of grammar but, rather, a different approach to what constitutes 'correctness'. Fries writes, "The only grammatical correctness there can be in English . . . must rest on usage . . . There can thus never be . . . an error that is both very bad and very common." (22: 33) Most usagists classify language usage into the following, or similar, levels: non-standard, colloquial, informal spoken, informal written, formal spoken, formal written, and literary. They advocate that the informal written and the formal spoken and written levels be taught in the schools since these are the levels that the student may not learn by himself, and they are the levels that will be of use to him in the adult world of successful people. Porter Perrin calls it the language "used by educated people in carrying out their affairs." (41: iii)

The science of meanings, called *semantics,* deals with insights into the ways words acquire different shades of meaning when used in different contexts. Stuart Chase (12) and S. I. Hayakawa (29) have shown that words can be used to reveal fine shades of meaning, but that words can also be used by unscrupulous people to *hide* meaning. An understanding of the ways words work should enable students to use language for more effective communication.

Scientific Grammars

1. *Structural linguistics....* Linguistics is the scientific study of languages. Muinzer (37) identifies three specialities in linguistic study: historical linguistics—studies the ways languages have changed to become what they now are; comparative linguistics—compares dif-

ferent languages to trace the development of one language from another; and descriptive linguistics—attempts to determine and classify the distinguishing features of a given language at a given time. A part of descriptive linguistics—often called structural linguistics—is concerned with the interlocking system of contrastive patterns in a language which signal grammatical meaning. These are patterns of sound, patterns of word forms, and patterns of word order. Structural linguistics is composed of two major branches: phonology—concerned with the sounds of a language; and grammar —concerned with how these sounds are grouped into meaningful utterances. Sometimes *structural grammar* refers to both these branches and sometimes to the latter only.

One of the distinctive ways in which structural grammar differs from traditional grammar is in the basis of its analysis. Newsome describes the structural basis of analysis as follows:

> Since parts of speech are arbitrary classifications in any grammar, it is not surprising that individual linguists select slightly different criteria in determining these form classes. It is possible to classify parts of speech primarily on the basis of inflectional endings as Trager and Smith do, or on the basis of syntactic functions, as Long suggests . . . Or the criteria may include both form and word order—a method employed by Fries, Roberts, Francis, and Lloyd and Warfel . . . But despite differences, these systems of classification have one important characteristic in common: they all work inductively and arrive at operational definitions which can be verified; they do not work deductively from semantic or functional definitions.
>
> In a classification of words based upon form and word order, five signals function: inflections and derivational suffixes (special formal characteristics of the words themselves); word order; structure words, or function words, which accompany the words; and, occasionally, stress. (39: 4)

The structuralists criticize traditional grammar for basing the analysis of sentences partly on function and partly on meaning. For example, all the *grammatical* information about the parts of the following sentence may be ascertained, even though we do not know its lexical meaning: 'A ticky tove rimples the most dinsy moosefores snavely.' Structuralists agree that there are a limited number of basic sentence patterns and an infinite number of variations of these patterns. While the relationship is not exact, intonation and stress often signal the type of punctuation required and the completeness or incompleteness of a sentence. Exercises in structural grammar tend to be synthetic, rather than analytic.

2. *Generative, or transformational, grammar.* A recent development in the field of structural synthesis is propounded by Noam Chomsky in his *Syntactic Structures.* (13) The basic concept of Chomsky's grammar is the 'kernel' sentence. This is a simple, active, declarative sentence composed of a noun phrase and a verb

phrase which have been derived from his 'phrase structure' rules. "The boy hits the dog." is a kernel sentence. From the kernel sentences are *generated* all other sentences by means of *transformations.* A transformation is a rule or formula that introduces a new element into a kernel sentence, or rearranges the parts of a sentence, or both. For example, by one transformation the adjective 'little' can be added to the sample kernel sentence in only two places—before boy or before dog—to generate the sentences: "The little boy hits the dog." or "The boy hits the little dog." or "The little boy hits the little dog." By another transformation any of these can be made passive: "The little dog is hit by the little boy." The only 'ungrammatical' sentences are those that cannot be generated by the rules. "The boy little dog the hits." is ungrammatical because no series of transformations will produce it. Owen Thomas (53) gives a description of the system which, while necessarily oversimplified, will give the reader an idea of the nature of the system. The *English Journal,* May, 1963, contains several articles concerning generative grammar.

Conclusions

While there is considerable evidence to show that formal grammar as traditionally taught has failed to produce the expected improvement in students' language competence and while there is little evidence favoring extensive knowledge of formal grammar for any of several other purposes for which it is commonly advocated, yet formal grammar is still advocated by some authorities and still taught by some teachers. In spite of the doubts about the value of formal grammar, there seems to be a felt need for some tangible content in the English language program. Perhaps a faith in formal grammar is instilled in the pupils along with the grammar itself. Some evidence shows that it would be unwise to depend on maturation or on writing practice alone to improve students' communication skills.

Four groups of alternatives to formal grammar as traditionally taught have been identified in the literature: the writing, or thought approach; the functional grammar approach; the usage-semantics approach; and the scientific grammar approach. Each of these approaches has some merits as well as some weaknesses. Since there is no one 'right' way to teach language, teachers should read widely in the literature and be prepared to adopt new and better ways of presenting their subject.

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YESTERDAY'S INFANT SCHOOL

K. H. Thomson
Faculty of Education, Edmonton

Part I

There would appear to be a steadily increasing interest in earlier entrance to institutions of formal education. Until recently one of the main manifestations of this interest has been the increasing number of parents who express the desire to have children enter grade one at age five or younger. Now we are seeing not only a continuation of this desire but also more interest and action in kindergarten organization. In 1962 this movement received renewed official recognition through the promulgation of Department of Education regulations which reinforced the permissive legislation of the Alberta School Act (Sections 395 and 396) and which set out the conditions under which a kindergarten might operate. These regulations make it necessary to obtain ministerial approval before a pre-school institution can call itself a kindergarten. If there is not this approval the institution is a play school or nursery school and comes directly under the regulations of the Department of Welfare rather than those of the Department of Education. Without this approval such a pre-school institution may not advertise itself as a kindergarten. Factors taken into consideration when an application is being appraised are the nature of the accommodation, the size and qualifications of the staff, and the nature of the program and equipment proposed. With respect to staff qualifications it is expected that newly appointed kindergarten teachers will hold a teaching certificate and have included kindergarten courses in their training. It is of interest to note that these institutions are subject to Department of Education inspection, that approval is given on a year to year basis, and that approval may be withdrawn at any time within the year. According to the Annual Report of the Department of Education for 1963 fifty-four applications for private kindergartens were approved. At the time of writing about two hundred applications have been received by the Department of Education and approximately one hundred fifty of these have been approved. Further departmental interest in this level of instruction is shown by the development of a guide to a kindergarten program of studies. The University of Alberta also shows recognition of the trend by the development of a teacher training course called Curriculum and Instruction in the Kindergarten.

Although it is evident that there is considerable activity in the area of private kindergartens very little is being done by regularly

constituted school boards. The West Jasper Place School District did operate one or two kindergartens and the City of Grande Prairie has made a start in this direction. The school systems associated with the Department of National Defence also operate kindergarten classes. No doubt the number of school boards entering this field of education will gradually increase but since the principle of fees is recognized for instruction at this level there will be less pressure to move from private to public sponsorship. From the point of view of the grade one teacher it would seem desirable that the trend become very widespread quickly now that both kindergartens and play schools have become so much more common in the urban areas. That the movement will continue to spread there can be little doubt, but the speed with which it will spread is difficult to forecast. One immediate side-effect of the regulative action however, which will tend to clear the way for the growth of the kindergarten movement, is the development of a clear distinction between a play school and a kindergarten.

In view of this interest in early school attendance it would seem appropriate to review the educational ideas and practice of one who promoted an early interest in infant education and infant schools. Such a person was Robert Owen.

Part II

As a backdrop to the educational endeavors of Robert Owen a brief look at Owen himself would seem useful. He was born in Newtown, North Wales, May 14, 1771, the son of a saddler, and, after a successful business career, much public service and much travel, he died in the town of his birth on the seventeenth of November, 1858.

According to his recollection he attended a school established in the mansion of a neighboring estate and his formal education lasted from the age of four or five to the age of nine.

> In schools in these small towns, he wrote, it is considered a good education if one could read fluently, write a legible hand, and understand the four first rules of arithmetic. And this I have reason to believe was the extent of Mr. Thickness's qualifications for a schoolmaster, because when I first had acquired these small rudiments of learning, at the age of seven, he applied to my father for permission that I could become his assistant and usher, as from that time I was called while I remained in school. And thence forward my schooling was to be repaid by my ushership. As I remained at school about two years longer, those two years were lost to me, except that I thus early acquired the habit of teaching others what I knew. But at this period I was fond of and had a strong passion for reading everything which fell my way. As I was known to and knew every family in the town, I had the libraries of the clergymen, physician, and lawyer—the learned men of the town—thrown open to me, with permission to take home any volume which I liked, and I made full use of the liberty given to me.[1]

Owen's informal education, through his reading and the wide range of the ideas and backgrounds of the great many personal acquaintances he had, was far more extensive than his formal education. His interest in reading he attributed to a delicate constitution which prevented his engaging in the activities that consumed the time of more fit children. His success in coming to know a great many prominent people from many walks of life he attributed to the quality of the textiles from the factory he managed, "for," as he states, "the best manufacturer in any branch of cotton manufacture became, in those days, a person of public celebrity, and my name now stood prominent before the Manchester public."[2] This reputation caused him to become a member of the Manchester Literary and Philosophical Society and he was on very friendly terms with members of the staff of Manchester College. By 1813, Owen was widely known for his keen interest in social reform and his personal contacts were very widespread. His acquaintances among politicians included the Prime Minister, Lord Liverpool, among churchmen the Archbishop of Canterbury, among political economists such as Malthus, James Mill and Ricardo, among princes the Duke of Kent—father of Queen Victoria, Grand Duke Nicholas of Russia—later to become Tsar Nicholas I, the Duke of Orleans—later to become King Louis Philippe of France. There would seem to be no doubt that Owen was widely known and aroused a great deal of interest during the first quarter of the nineteenth century. As a result of his diversified contacts and interests his influence was fairly extensive.

Owen's travels abroad were quite extensive too, including visits to the United States, Mexico, St. Domingo, Jamaica, France, Switzerland and Germany.

With respect to education, while in Europe he visited the schools of Father Oberlin in Geneva, of Pestalozzi at Yverdun and of Fellenberg at Hotwyl, and it would appear that he never missed an opportunity to tell these people about the principles and operation of his school. In 1813 he devoted much time and effort to the promotion of

> Dr. Bell's and Mr. Lancaster's plan for educating the poor, and in other public matters which were then beginning to occupy the attention of benevolent men, for this was at the commencement of the new era for ameliorating the condition of the poor and for educating their children.[3]

Even though these efforts were often poor and misguided he took a keen interest in a great many. As he said: "The beginning of some education, however defective, was much better than the entire neglect of it; and I confidently expected that when once commenced it would gradually progress toward a much more mature state."[4] He claims to have had considerable influence on the de-

velopment of Prussian education, which in turn became so influential elsewhere through the influence of Victor Cousin and others. He tells us that the Prussian Ambassador, Baron Jacobi, requested an introduction to him and sent copies of Owen's writings to his King

> Who so much approved of them as to write an autographed letter to me expressing his high approbation of my sentiments on national education and on government, and stating that he had in consequence given instruction to his minister of the interior, to adopt my views on national education to the extent that political condition and locality of Prussia would admit.[5]

Toward the end of the 1820's Owen's influence was waning. His many cooperative projects were short-lived and he lost touch with the main stream of reform. By 1837 he was receiving practically no attention although he continued to be very active with his writing and speaking. At the age of eighty-two he turned to spiritualism as a means of promoting his social and educational views.

Part III

To round out the background against which Owen's educational theory and practice was developed, a few comments to aid in recalling the state of society in his times might be appropriate. It was a period of fairly rapid transition with all the social dislocation that this involves. The developments of science promoted the enclosure movement with its consequent disruption of agricultural patterns and made possible the factory system which practically destroyed domestic industry and furthered the enclosure movement. These forces created a large uprooted segment of the population which was now without either economic or social stability. The effects of these social changes were also reflected in serious slum conditions developing very rapidly in many urban areas. These conditions would have had grave human consequences if only certain segments of the adult population had been involved, but it was far more serious when it involved a large number of children, many of whom were very young indeed.

Congestion, child labor, child neglect, low wages and long working hours became very common. With respect to the first, one medical officer estimated that in one area of London there were 581 persons living on half an acre. Regarding child labor M. T. Sadler, M.P. said:

> Our ancestors could not have believed it possible—posterity will not believe it true—that a generation of Englishmen could exist or had existed, that would work lisping infancy of a few summers old, regardless alike of its smiles or tears, and unmoved by its unresisting weakness, twelve, thirteen, fourteen, sixteen hours a day, and through the weary night also, till, in the dewy morn of existence, the bud of youth was faded and fell e'er it was unfolded.[6]

The problems arising from both parents working where care of children is not provided is not new to us.

No doubt female and child labor did much to force down the level of pay to heads of households because of competition in general and because the scale of pay to females and children was less than that to males. We are told that girls would work for 6 to 8 shillings a week at jobs which had commanded from 18 to as high as 45 shillings for men. The development of the 'truck system' or company store often added to the misery because of uncontrolled prices where wages were paid in goods.

With respect to long working hours, we read of amazing feats of endurance. A train fireman gave evidence that he had worked continuously as long as twenty-nine hours, fifteen minutes, and his week's working time on this particular occasion was eighty-eight hours forty minutes. In June of 1863 a London newspaper carried an item headed: 'Death from Overwork' which told of a Mary Ann Walkley, age twenty, who worked in a milliner shop. Her average daily hours of work were fourteen and a half, but in rush seasons she frequently worked for thirty hours on end. Her death occurred during such a season. With respect to conditions in large factories one inspector reported that in one mill he found women who for many weeks had been employed from six in the morning till midnight with less than two hours off for meals. Proposals to control working hours met with strong resistance and were looked upon as a threat to the economy. According to Marx the working day varied from eight to eighteen hours, often with no regular time for meals being allowed.

No doubt the extremes of hardship received particular attention, but it is certain that the situation was very bad, that a thorough going program of reform was needed, and it was to the cause of reform that Robert Owen devoted most of his energy throughout his long life.

Part IV

Elementary schooling for most children in Owen's time was either not available or took the form of Charity Schools or private 'baby-sitting' types of institutions such as Dame Schools and those established by tradesmen in their shops. The following is a description of a tradesman-teacher.

> William Woodcock, more familiarly called Billy Bingo—a jolly little man, who united the two vocations of schoolmaster and baker, while his wife boiled toffee and barley sugar for the children. He was a very merry, conceited little fellow, who thought these three pursuits particularly congenial, and often boasted that he nourished both body and mind . . . He used to come whistling or humming a tune, hot out of his bakehouse, with his shirt sleeves rolled up to his shoulders, sit down at once to cool himself and hear our lessons; and then, having set us our copies, he strutted

> humming away again to set his bread. A more contented creature never existed: to hear him talk, you would imagine he had educated all the great men in the country.[7]

All such teachers were by no means as kind and jolly as William Woodcock. Smith quotes Joseph Lancaster as saying that such teachers were "but too often the refuse of superior schools, and society at large. Their earnings were small, their schools unhealthy, their drunkenness was 'almost proverbial.' They punished harshly, and regarded the lash as 'the only properly governing medium.' "[8]

Another type of school which represented something of a new trend was the Sunday School. These schools were started mainly by Robert Raikes and had as their main purpose the occupation of the child's time when he was freed from work on Sundays and to occupy this time profitably by inculcating concepts of good conduct. Neglected children were becoming a public menace from the point of view of established society. As the Reverend Charles Moore stated it, the purpose of the Sunday School

> Was to furnish opportunities of instruction to the children of the poor without interfering with any weekly industry; to infuse into the tender minds of infancy ideas of decency, sobriety and industry; to inure them to early habits of regularity in their attendance at church and to teach them how to spend the leisure hours of Sunday to their own improvement, advantage and happiness, which are now almost universally consumed in idleness, profanation and riot.[9]

These schools often opened at 8:00 a.m. and included morning church service. After a noon break they generally reassembled at 2:00 p.m. and remained in session until 7:00 p.m. in summer and 6:00 p.m. in winter.

Another new movement was the monitorial type of school introduced by Joseph Lancaster and Andrew Bell to which reference has been made. The schools established by Lancaster were non-denominational, while those established by Bell reflected the concern of the clergy over such secular institutions.

In spite of various types of elementary schools it would seem proper to credit Owen with being the founder of the true infant school in England and certainly among the forerunners of this movement elsewhere.

Part V

G. D. H. Cole writes:

> Robert Owen, shop-boy and manufacturer, factory reformer and educationist, socialist and co-operative pioneer, trade union leader and secularist, founder of ideal communities and practical man of business ,was something of a puzzle to his own generation, and is no less a puzzle to posterity. Surely no man ever founded so many movements, and yet had so simple and unvarying a body of ideas.[10]

Basic to Owen's theoretical position were his ideas regarding the nature of religion, the nature of man and man's self-realization. The

key to self-realization, to human happiness, lay in the development of a spirit of universal charity, which, for him, depended on overcoming the intolerance and divisiveness generated by sectarian religion and other forces of disunity among men. He states:

> . . . I am not of your religion, nor of any religion yet taught in the world! —to me they all appear united with much—yes, with very much!—error![11]

The errors to be found in all sectarian religion made rational behavior impossible. By rational behavior he meant behavior governed by universal charity. Society needed to permit the most unlimited religious freedom. Indeed, society needed to transcend religious doctrine. Universal charity disregards creeds, he argued.

Religious sectarianism was not the only divisive force in society however. Economic insecurity was also a major cause of human disunity. The abolition of this cause of disunity would come through the employment of cooperative enterprise. Through cooperation men could produce more than they needed and thus each would get all the goods and services he needed. This would remove the desire for individual accumulation of wealth, indeed such a desire would appear to be irrational.

And what of the nature of man, which, freed from the blight of creed and covetousness, could operate in accordance with the spirit of universal charity? To begin with: "By my own experience and reflection I had ascertained that human nature is radically good, and is capable of being trained, educated, and become united, good, wise, wealthy and happy."[12]

Although he placed great emphasis on the power of environment he recognized a basic nature which did impose limits on adaptability. But within the limits of the potentiality of each the social environment determined or directed development. With respect to this matter he stressed the lack of personal responsibility for the course of individual development.

The basic quality to be found in man is the desire to obtain happiness which is primary cause of all his actions. In addition he was imbued with the desire to "sustain, enjoy, and propagate life."[13] And he has the potentiality to receive, convey and compare ideas, and the potentiality to become conscious of these metal processes. These mental powers develop with the growth of the individual. The way in which a man's potential develops, which varies from individual to individual in some degree, depends on his experience "from the objects around him, and chiefly from the example and instruction of his immediate predecessors."[14]

It will be apparent that man and society cannot depend on the natural unfolding of human nature to secure happiness. 'Positive'

education is necessary for the proper development of the individual just as 'positive' governmental legislation is necessary for the proper development of society. Proper environmental and directive measures could do wonders to reform the individual and society. "The fundamental principle on which all these essays proceed is," he writes, "that 'children collectively may be taught any sentiments and habits,' or in other words, 'trained to acquire any character.' "[15] And again:

> Any general character, from the best to the worst, from the most ignorant to the most enlightened, may be given to any community, even to the world at large, by the application of proper means; which means are to a great extent at the command and under the control of those who have influence in the affairs of men.[16]

Owen saw in the nature of man far reaching implications for education and schooling. In the first place, since so much of man's character was formed for him, it was imperative that there be a uniform national system of education and that this system be universally applied. Education should not be an object of inappropriate parental application nor of parental neglect. And since character formation begins at birth formal education should begin at the earliest possible age in a manner that would provide the least possible opportunity for the acquisition of bad habits and in a manner that would provide greatest opportunity for learning universal charity.

Owen, therefore, would have children enter the infant school as soon as they could walk with a reasonable degree of assurance. At times he suggests age two and at other times age three. In any case, certainly by age three, the little people would enter boarding schools. In the main, they would be away from parental influence but parents would be expected to visit them often during meal times and at other appropriate times. The period of infant school education was to be divided into two levels, the first and the second preparatory schools. The first of these levels we would perhaps call play school and the second we might call kindergarten, although there would probably be some extension into our grade one level in the second preparatory school. At this latter level a beginning in the development of basic skills would take place. The elementary school or third level would extend from age six to ten, although he would recommend age twelve. In selecting ten he was conforming with the practical necessities of the day. Most children entered the fatcory as workers at this age. Post-elementary schooling would consist of two-hour night classes for children and tri-weekly sessions for adults. The children were to extend their knowledge of reading, writing, accountancy and for the girls sewing. The adults were to learn child care and training.

Owen recognized the importance of the proper training of teachers to qualify them for the very important responsibility assigned to them. He recommended that legislation be passed which would provide

> For the establishment of seminaries in which those individuals who shall be destined to form the minds and bodies of the future subjects of these realms should be well initiated in the art and matter of instruction . . . Let the instruction to the young be well-devised and well executed, and no subsequent proceedings in the State can be materially injurious.[17]

The specific aim of education was to develop "full-formed men and women physically and mentally, who would always think and act consistently and rationally."[18] What would Owen have taught to promote this aim? Very important would be the inculcation of good habits and sentiments. Since any group of habits and sentiments can be developed it is most important that the proper ones be selected for development, those that will contribute to happiness. Basic here is his precept of never injuring one's fellows, and, on the contrary, of contributing to their happiness in every possible way. This, he maintained, represented rational conduct and would be reinforced in younger children by the example of the older children who would have come to understand and appreciate the merit of such conduct. Such behavior would develop into habit if no deviation was permitted.

Academically he would stress the mastery of basic skills and the development of a broad background of knowledge on which sound judgements could be based. Above all, it was important that the basic skills were applied to proper and useful knowledge and not to vicious knowledge.

With respect to physical education considerable emphasis was placed on dancing and training in military formations. Both were commenced at a very early age and both were expected to improve health, grace and strength, and the last was expected to prepare future citizens for the defence of the nation. Defence would not be necessary if all men were trained in a rational manner but until such was the case military preparedness was a necessity. He did think that it was much preferable to have military training take place in the school than to expose youth to the recruitment and training policies of his day. And from a national point of view he considered that a school training program would, in the course of time, provide a permanent armed force for which little national expenditure would be required.

In connection with health Owen gave his attention to dress. He considered that the Romans and the Scots had developed forms of dress best suited to promote health, grace and strength. He recom-

mended a combination toga and kilt type garment that would provide the freedom conducive to the development of these attributes.

Regarding methodology Owen was well attuned to the principles advocated by many educational reformers. He agreed that experience was the basis of knowledge and he maintained that the opportunities for using first-hand experience should be completely exhausted before resorting to second-hand experience. Field trips were considered very valuable. When first-hand experience of a primary sort was impossible secondary sources such as pictures and maps should be generously used.

> The children in these new schools, he writes, should therefore be trained systematically to acquire useful knowledge through the means of sensible signs, by which their powers of reflection and judgement may be habituated to draw accurate conclusions from the facts presented to them.[19]

It was also important that learning should take place in a context. Only in this way would there be understanding. Most schools encouraged only rote memory which was a mockery of learning.

> Thus the child . . . if . . . he possess a memory to retain incongruities without connection, will become what is termed the first scholar in the class; and three fourths of the time which ought to be devoted to the acquirements of useful instruction, will be really occupied in destroying the mental powers of children.[20]

Like Lancaster and Bell, Owen did not consider large classes to be a problem. Proper supervision over a large group was superior to the effects of too much attention that comes with two or three infants being placed under the care of some person who does not understand human nature.

Owen considered competition among students to be bad. In part this attitude stemmed from his own experience as a child when he was pitted against his brother in a writing contest and won. With respect to this incident he felt that he lost some of his brother's affection unnecessarily and he wrote:

> I have said that such competitions are unjust, because, as no two organizations are the same, there can be no just comparison between the competing efforts of any two individuals,—while the successful one is thus taught vanity, and the unsuccessful jealousy and hatred.[21]

Closely associated with his view on competition was his view on discipline. Discipline should be very mild. Basically this was reasonable because since characters were made for and not by individuals they could not be held responsible for their behavior. Rather the teacher or society should be the object of punishment. In any case it was not the child who should be disciplined. He

> Considered all children as beings whose dispositions, habits and sentiments are to be formed for them; that these can be well formed only by excluding all notions of reward, punishment and emulation; and that, if their characters are not such as they ought to be, the error proceeds from their instructors and the other circumstances which surround them.[22]

For immediate disciplinary results the best method is to keep children interested and busy—the worst is the use of the birch. He agreed with Quintilian and many others that harsh discipline could very easily kill all interest in learning for the young.

> It has been and ever will be found far easier to lead mankind to virtue, or to rational conduct, by providing them with well-regulated innocent amusements and recreations, than by forcing them to submit to the useless restraints, which tend only to create distrust, and often to connect such feelings even with that which is excellent in itself, merely because it has been judiciously associated.[23]

But, in the long run, the only sound disciplining of human beings comes through the molding of good character and this, Owen was convinced, could be done by providing children with the sort of environment that would instil sentiments of charity from the day of their birth. Education in the sense of character training, as opposed to the idea of book learning, could not begin too soon in life. The infant school was a primary answer to many of society's most pressing problems.

Part VI

It was in conjunction with the Scottish mill at Lanark that Owen first put his educational ideas into practice in 1816. In 1814 the third business partnership he had was formed, and these men were more agreeable to social experimentation than previous partners had been. He tells us that children who could walk were received into the school and some of these were under two years of age. Although he favored boarding schools the Lanark institution was a day school. He charged three shillings a year and he estimated that the cost per child was two pounds a year. He considered that the deficit was more than made up by the improved character of the population which the school brought about. The principles he had enuniciated prior to the opening of the school were practiced. Education by 'sensible signs' and familiar conversation was employed. Books, he suggested, should not be employed before the age of ten. Field trips, maps and pictures were employed in a liberal manner. Kindness to their fellows was impressed upon the children. The older children between the ages of four and six were taught to be concerned about and to assist the younger ones.

The subjects taught were reading, writing, arithmetic, dancing, singing, military drill, botany, history and geography. His Quaker partners objected to the singing, dancing and military drill and in 1824 these subjects ceased to be a regular part of the program although dancing continued to be taught as an extra subject for which there was a special charge. This type of training was not to be a charge against the business. The partners also took exception to what they considered to be the immodesty of the dress or uniforms.

From the point of view of public appeal the banned subjects were among the ones that had interested visitors the most keenly.

Singing lessons began at the age of four. In the class there would be about one hundred fifty voices, which were trained to harmonize. It seems that the ability of the children to sing old Scottish songs was notable. The dancing also involved a large number of children at one time. Usually there were about seventy dancing couples on the floor at once and their skill was such that the presence of the dancing teacher was scarcely felt. The children began their dancing lessons as soon as they entered the school. The military formations were carried out by both boys and girls who went through their exercises with six or eight little pipers in the lead. The children's proficiency in executing their manoeuvers drew very favorable comment from the army officers who saw them.

It was, however, the geography lessons that created the greatest interest among visitors. At first these were made very specific lessons in tolerance as was Owen's general aim in all instruction. He hoped that the children could be taught that differences among people resulted from differences in environment and not from the operation of individual wills. The moral aspects of the geography lessons had to be dropped at the insistence of the partners. However, the lessons had other points to interest the visitors. Owen described the lessons as follows:

> At a very early age they (the children) were instructed in classes on the maps of the four quarters of the world, and after becoming expert in a knowledge of these, all the classes were united in one large class and lecture room, to go through these exercises on a map of the world so large as to almost cover the end of the room. On this map were delineated the usual divisions of the best maps, except there were no names of countries or cities or towns; but for the cities and towns were small but distinct circles to denote their places—the classes united for this purpose generally consisted of about one hundred and fifty, forming as large a circle as could be placed to see the map. A light wand was provided, sufficiently long to point to the highest part of the map by the youngest child. The lesson commenced by one of the children taking the wand to point with. Then one of them would ask him to point to such a district, place, island, city, or town. This would be done generally many times in succession; but when the holder of the wand was at fault, and could not point to the place asked for, he had to resign the wand to his questioner, who had to go through the same process.[24]

The writer knows that many in his own times will have experienced similar geography lessons but not in the presence of so many fellow pupils.

The physical plant in which these lessons were conducted might be of interest. The following is the description Owen's son has left us of the New Lanark five roomed school.

> The principle school-room, is fitted up with desks and forms, on the Lancastrian plan, having a free passage down the centre of the room. It is

> surrounded, except at one end, where a pulpit stands, with galleries, which are convenient when this room is used, as it frequently is, either as a lecture-room or a place of worship.
>
> The other and smaller apartment on the same floor has the walls hung round with representations of the most striking zoological and mineralogical specimens, including quadrupeds, birds, fishes, reptiles, insects, shells, minerals etc. At one end there is a gallery, adapted for the purpose of an orchestra, and at the other end are hung very large representations of the two hemispheres; each separate country, as well as the various seas, islands, etc., being differently coloured, but without any names attached to them . . . and it is here that the dancing and singing lessons are daily given. It is occasionally used as a reading room for some classes.
>
> The lower story is divided into three apartments of nearly equal dimenisons . . . It is in these three apartments that the younger children are taught reading, natural history, and geography.[25]

As evidence of the extremely favorable impression Owen's experiment made on visitors we can look at two assessments. A Leeds delegation reported that they found three hundred and eighty pupils between the ages of two and ten years of age. The report of the delegation reads, in part:

> In the education of children the thing that is most remarkable is the general spirit of kindness and affection which is shown towards them, and the entire absence of everything that is likely to give them bad habits, with the presence of whatever is calculated to inspire them with good ones; the consequence is, that they appear like one well-regulated family, united together by the ties of closest affection.[26]

The physician to the Duke of Kent, Dr. Macnab, wrote:

> The children and youth in this delightful colony are superior in point of conduct and character to all the children and youth I have ever seen.[27]

Owen considered that there were ten features of the New Lanark school that were new in educational practice. We are not likely to agree that his school was this original, but his points do indicate the degree to which he was in step with other educational reformers. The first two points stress the lack of traditional disciplinary measures and the emphasis on never failing kindness in the treatment the children received. Points three and four dealt with teaching through a study of the 'thing' and teaching through familiar conversation between the teacher and the pupil. Questions were invited and gaps in the teachers' knowledge were to be candidly acknowledged so as never to tamper with fact or truth. Point number five dealt with the informality of the school routine. There were no regular school hours. When the mind was keen and receptive teaching would take place and when the child was tired he was free to take part in exercises or other recreational activities such as music. Points six and seven refer to the character training derived from instruction in music, dancing and military exercises providing they were not overdone. Point number eight deals with field trips being practical and an essential feature of instruction at New Lanark. Points nine and ten maintained that

> It was quite new to train children of the working class to think and act rationally, and to acquire substantial knowledge which might be useful to them through after life . . . It was quite new to place the child of the working man within surroundings superior to those of the children of any class . . .[28]

Robert Owen, one of the most altruistic and sincere of men, deserved much more recognition than he has ever received for his devotion to and concern for the genuine welfare of little children, that segment of humanity that is so often ill-treated either negatively or positively or both.

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